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## ***CIDER is Born***

**Terry Anderson**

With significant male trepidation, I want to share a birth story with IRRODL readers. This month, after a seemingly endless gestation, the Canadian Institute for Distance Education Research (CIDER) was born. Like most births, this new presence began with a blissful consummation, when I accepted the Canada Research Chair in Distance education at Athabasca University. After a very short honeymoon, a couple of miscarriages, and a few lover's spats that marked the relationship between the Center for Distance Education and myself, we struggled to determine the type of protégée we wanted to birth. The within the womb (in house) development of the visible image and website took shape, which like all gestations, was marked by some lower backache, punctuated by a few graphic images that turned out to be false labour.

But in its time, <http://cider.athabascau.ca> emerged and although hardly full grown, it does have all its toes and fingers, so as proud parents we are pleased. So, even though CIDER is still in its earliest infancy, we would like to invite you a christening and viewing of the CIDER website.

CIDER is a portal or doorway to Canadian distance education research. We hope that researchers from across Canada - and around the world - will grow with CIDER as an entity born to share expertise and experiences, to find and recruit partners, collaborators, sponsors, and workers, and to enrich our research community. IRRODL is CIDER's peer reviewed dissemination vehicle. As always, IRRODL welcomes research reports and best practice from CIDER's cousins, uncles, and aunts from around the world. We plan to expand the CIDERPress as an online Open Access distribution tool for the dissemination of our research and teaching work. As CIDER matures, CIDERweb will expand with reviews of exemplar research projects, tools, and techniques, and grow to include robust databases of skills and interests of its extended family.

As I write, CIDER does not yet have its databases up-and-running to allow you to formally become a CIDER Fellow or CIDER Student, but that functionality will come - hopefully by mid November. In the meantime, any suggestions you may have that will aid in CIDER's growth and rigor, are most appreciated.

### **This Issue**

This third issue of Volume 5 is rich with six main and research reports. It also has three articles of theological interest. Rogers and Howell overview article documents use of distance education by faith communities around the world. Palka's Technical Notes article looks more closely at the development of faith based community and its components at an American Christian seminary, and Doxsee overviews Marriage Mentorship a spiritual and community concern of all formal and informal religious organizations.

I would especially draw your attention to the article on copyright by Rory McGreal. As an Open Access journal, this issue strikes close to our heart, and is clearly an increasingly important issue for all distance educators. Regardless of where you live or work in our small world, times are demanding that we make a more proactive political effort to insure that the misuse and unreasonable extension of copyright law does not impair our capacity to develop and to deliver quality educational programming. This issue also contains three thoughtful book reviews (one of our own Open Access book) and six technical notes ranging from marriage and theology, to accessibility, to learning objects! We hope you enjoy the issue and email at least a reference or two to your colleagues!

Terry Anderson



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November – 2004

## ***Group and Class Contexts for Learning and Support Online: Learning and affective support online in small group and class contexts***

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### **Abstract**

This study was designed to evaluate the use of asynchronous discussion in distance education in terms of student perceptions of its value for learning and for affective support. At the end of the third and sixth years of a distance delivered teacher education programme, students completed a survey to determine the extent to which the nature and characteristics of the online aspects of the programme contributed to learning and afforded affective support. Students perceived considerable value in the online interaction for both learning and support. Small groups and the whole class were seen as the dominant spaces for interaction, but there was considerable differentiation between them in terms of their contribution to affective support. The small group discussions were seen as most important for all aspects of communication but students reported non-participation by some members as a significant problem.

**Keywords:** online learning; interaction; group discussion; student support; distance education; asynchronous communication

### **Learning and Affective Support Online in Small Group and Class Contexts**

At the heart of a group of learners lies the communication that takes place between its members. That communication serves two main functions. In the broad terms that Gee (1999, p. 1) uses discussing language, those functions are “to scaffold the performance of social activities (whether play or work or both) and to scaffold human affiliation within cultures and social groups and institutions.” In more specific terms relevant to online learning communities, the functions can be described for the student community members as scaffolding the attainment of the goals of their study, and scaffolding affective support for each other (Anderson, 2004; Pavitt and Johnston, 1999).

This paper will discuss the way in which students perceive these two functions of the interaction between learners in an online learning environment. Discussion focuses on the use of asynchronous interaction within a distance delivered teacher education programme, emphasising the way in which students perceived the characteristics of their interaction and the value it had for their learning and affective support in the programme. A particular feature is that students

engaged in the interaction in both small groups and whole class settings, providing the opportunity to examine the perceptions of interaction within each setting.

## **A Communication Infrastructure for Learning and Support**

Attrition rates among distance students are high in comparison to students undertaking traditional face-to-face study (Ryan, 2001). A solution to the issue of student attrition is to emphasise the social and community aspects of student life. Thus an intentional aim for the online interaction of students in a programme must be the development of a culture of support and care (Wrightson, 1998). Yorke (2004) argues that students who feel part of a community are less likely to drop out than those who feel alone, but states that developing a sense of belonging “is a particular challenge when the student is remote from the provider” (p. 26).

When students are remote, online communication provides an effective means of drawing students together to develop a sense of community. Rovai (2002) argues that communities can develop amongst groups of online learners and that they are characterized by “feelings of connectedness among community members and commonality of learning expectations and goals” (p. 322).

The size of the community has a direct bearing on the extent to which all involved have a sense of belonging. Within any community, as the number of people involved increases directly, the number of potential linkages between them increases at a much greater rate. Fahy, Crawford and Ally (2001) note that group size becomes a determinant of the level of involvement, and thus sense of belonging. Smaller groups could expect to develop closer relationships.

Developing a communication infrastructure for a full time distance delivered programme raises design questions over and above those faced in the design of individual courses. Programme goals as well as individual course objectives must be considered, meaning that the particular demands of the area of the programme will be an additional focus for the design. With an emphasis on teacher education, a second aim of providing an infrastructure for interaction online must be to enable sharing, discussion, and synthesis and integration of theoretical perspectives and practical experiences as a contributing factor in the development of critical reflection on practice. The centrality of critical reflection to a teacher education programme is such that the design of the programme must afford all students the greatest opportunity possible to engage in the higher order dialogic activities that support such reflection.

A number of studies on the quality of online interaction report that within online discussion forums there is extensive interaction involving giving of information and exploration of ideas, but considerably less interaction in support of integration of ideas and resolution of divergent themes (e.g., Angeli, Valanides and Bonk, 2003; Fahy, Crawford and Ally, 2001; Garrison, Anderson and Archer, 2001; Gunawardena, Lowe and Anderson, 1997). However, Howell-Richardson and Mellar (1996) and Garrison (2001) provide evidence to support the view that patterns of interaction are likely to be determined by the instructional design (course material should focus on synthesis of ideas and concepts) and moderation of discussion (moderators should guide discussion toward higher-order cognitive activities). In addition, drawing on the discussion of Fahy, Crawford and Ally, it is suggested that work in small groups enhances opportunities for engagement leading to greater possibilities for integration and synthesis of a range of perspectives.

## Context of the Study

The online interaction that is the focus of this study took place amongst students in a full-time three-year programme of distance study leading to the award of the Bachelor of Education (Teaching) degree. The programme consists of four strands - education foundations, professional inquiry and practice, curriculum study, and studies in subjects.

The programme must be regarded as small scale in distance education terms. The first intake was limited to 50 students. Subsequent annual intakes have all been less than 100 students, and there are currently just over 200 students enrolled, most of whom are full time students moving through the programme in cohort groups. Although student numbers are small, the predominantly full time nature of study means that students acquire considerable experience as online students. In the three years it takes to complete the programme as a full-time student, each student will have to pass 24 courses at a distance, where all courses have a compulsory, but un-graded requirement of regular participation in discussion tasks. In addition, some courses require involvement in collaborative assessment tasks online.

The programme is not entirely online. Students receive print material and digital and practical resources at the beginning of each semester. A learning management system (WebCT) is used to enable online communication and some content delivery and self-assessment activity. Students are not required to go on campus at any stage of the programme.

As an indicator of engagement in the online component, message count data was obtained during the first three years of the programme. The following table represents the average number of messages that a student and a lecturer would expect to receive each week for each of the semesters of the first three years. These averages only relate to communication using the Bulletin Board feature of WebCT, and do not include personal communication between students and between lecturers and students (using WebCT's Private Mail function).

**Table 1.** Average number of messages received per week over a sixteen week semester

	First year of programme		Second year of programme		Third year of programme	
	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
First year students	157 (52)	105	125 (73)	118	145 (70)	224
Lecturers (of 1 <sup>st</sup> year students)	28	15	27	25	29	43
Second year students			148 (48)	148	125 (65)	90
Lecturers (of 2 <sup>nd</sup> year students)			23	20	22	22
Third year students					117 (46)	98
Lecturers (of 3 <sup>rd</sup> year students)					36	35

Note: Number in each student year/ group is given in parentheses

Each course in the programme has its own WebCT site and within that a bulletin board structure that enables small group and whole class discussion. The programme was designed to take advantage of the inherent closeness and supportive nature of small groups. Study guides for each course contain activities that the students are required to undertake and discuss online. Activities are typically written to encourage initial discussion online in small groups of five to eight members. These groups have common membership, or a core of common membership such that students work together in the same small group across all courses in their cohort. Following small group online discussion, groups report to a whole class forum and additional class-wide discussion occurs there. A guideline for the programme is that in each course, students should make at least three substantive contributions to discussion each week in either small group or class forums. Substantive is described in terms of Anderson and Garrison's (1998) discussion of online interaction.

Teaching in a class requires lecturers to take sections of 30 - 35 students, and in most instances students see themselves as being in a "whole class" of that size. A few lecturers teaching more than one section combine their sections to form a whole class of 60 - 70 students. Lecturers lead or facilitate discussion in the whole class forums in contrast with the small groups discussions that are collaborative (Bonk and Cunningham, 1998; Bruffee, 1999), student led and have minimal lecturer involvement. Teaching throughout the programme follows a broadly constructivist approach (Jonassen, Davidson, Collins, and Bannan Haag, 1995).

All students in the programme are required to participate in an online discussion for every course in which they are enrolled as a part of their programme of study. This means that most students are engaged in four or five different course-based discussions with the same small group each semester. Composition of the small groups, which are formed at random, changes each year.

### **Purpose and Method of the Study**

An end-of-year survey was undertaken in each of the first three years of the programme, and again after it had been running for six years, to determine the extent to which the online infrastructure and interaction were addressing the goals set out for them. The survey focused on the extent to which students perceived the nature and characteristics of the online aspects of the programme contributing to their learning and affording affective support. Data from the last two surveys undertaken (the third year and the sixth year surveys) are reported here.

Survey items remained relatively unchanged across the surveys, although some new items were added to the survey and a small number removed. Each survey gathered some base data such as estimates of hours studied per week, cost of online access, location and age range of student, and earlier surveys also reported quantitative measures of student interaction online. Each survey also asked students to complete a number of 5-point Likert scale items (strongly agree; slightly agree; neutral; slightly disagree; strongly disagree) related to the following four areas: interaction and collaboration online; lecturer's role; social presence and affective support; and the use of online tools. In addition, the survey asked students to rank the various modes of online communication in order of importance to them for learning and for affective support.

The numerical data reported below from the latest (sixth year) survey are accurate to a +/- 5 percent interval at the 95 percent level of confidence. All students ( $n = 216$ ) in the programme were surveyed, with a response rate of 61 percent. Results from the third year survey, which had a response rate of 75 percent of the total population ( $n = 130$ ), are added for comparative purposes where items were present in both surveys. Students were also invited to add comments in relation

to any of the items in the survey. Comments from the sixth year survey are reported here; 106 of the 132 survey respondents added comments to their survey. Comments were collated and analysed thematically, based on the broad themes of the survey.

The survey data are used here in the discussion of two points of particular importance in the study of contexts for online interaction. We first discuss student perceptions of several aspects of interaction for learning online, and then report on and discuss student responses to the fewer items concerning affective support. Running through this discussion is a thread that teases out the impact of small groups in contrast with whole class interaction.

## Interaction for Learning

This section presents and discusses survey results relating to student perceptions of their online interaction for learning. The text in the Item column of each table is the exact text used in the survey items.

An initial issue is the extent to which the design of courses and the moderation of lecturers were perceived by students as making available opportunities for interaction. Table 1 shows how students saw this design aspect of the programme as affording the possibilities for involvement. For this table, and all others, the percentage in overall agreement indicates the sum of the percentage of participants reporting strong agreement, and the percentage of participants reporting slight agreement with the item.

**Table 2.** Designing for interaction

Item	Strong agreement (%)		Overall agreement (%)	
	6-yr Survey	3-yr Survey	6-yr Survey	3-yr Survey
Many opportunities for learning collaborations with others were built into the course material. (11)	53	44	89	92
Lecturers often led discussions in the class discussion groups. (e.g., by stating a topic and providing a lead question, by setting limits to the discussion or by winding up discussion of a topic) (15)	35	44	75	82
Lecturers often facilitated discussions on class discussion groups. (e.g., by questioning student responses or picking themes from small group discussions and expanding them) (16)	26	31	69	71

The first item in Table 1 shows that students reported recognising the opportunities for learning collaborations with others that were built into course material. The increase in strong agreement from the third to the sixth year survey, can be taken as reflecting the ongoing institutionally-based quality improvement processes that focus on material development. The continuing extremely high level of overall agreement indicates that the course material provided remains, for all students, a means through which they can enter into online interaction. Comments by two

students on this item suggested an uneven picture, with interaction opportunities being built into some courses more than others (46, 11; 6, 11) while several others indicated that issues lay more in ensuring members contributed to discussion than in providing opportunities for interaction. (Notation indicates Participant Number and Question Number; thus (46, 11) means Participant 46 made this comment adjacent to Question 11.) Typical here were comments that: “Opportunities were there, but often classmates weren’t.” (36, 11) and “But don’t agree that they are always effective if there is a dysfunctional group” (114, 11). These latter comments signal issues concerning the use of small groups that are discussed later in this paper.

Students perceive the role of lecturing staff within whole class discussions as being more directive than facilitative. The decline in agreement seen in both items suggests perhaps that lecturers are to some extent withdrawing from engagement at the whole class level. Seventeen of the respondents commented about this item, many noting again the variability across courses. The comment “It really depended on the subject/ lecturer as to how/ if they led discussions. Some subject lecturers were fabulous at this and others were barely present” (16, 15), encapsulates this type of response.

Acknowledging opportunities for engagement and collaboration is the first step; students must then actively engage in interaction. They report taking advantage of those opportunities and going beyond their own perspectives as they do so.

**Table 3.** Usefulness of Interaction for Learning

Item	Strong agreement (%)		Overall agreement (%)	
	6-yr Survey	3-yr Survey	6-yr Survey	3-yr Survey
I often became involved in collaboration with other students for learning in the course (12)	49	42	83	85
Other students often shared their understanding of the course topics with me (19)	27	40	77	81
Online collaborations with others provided me with points of view about course material that I might not have otherwise considered (13)	52	60	82	91

The figures in Table 3 show a high level of overall agreement about the existence of collaboration in the course. Of most importance is the response to the third of these items, showing that a majority of students are in strong agreement that, through collaboration with others, they were exposed to new points of view about the concepts and ideas expressed in course material. For the second item, the low level of strong agreement in the six-year survey can be teased out through consideration of the different responses of students in each year group. Students in their first year of study had a low level of strong agreement with this item (21 percent), while 34 percent of students in their third year of study report strong agreement. It is not surprising to find that as students become more accustomed to working with each other, they become more willing to share ideas and understandings.

These figures are supported by the comments that students added to their survey response sheet. The high levels of overall agreement reported above are reflected in the generally positive

comments students made about their interaction online. In a typical comment, a student reported finding “. . . that by discussing online, I was able to gain further understandings of course content and clarify my own ideas with others” (1, 42). Question 42 asked for additional comments about the effectiveness or limitations of online delivery. The comments were effectively summarised in the response of one student who noted:

### **Value**

- New insights/ clarification from others
- Forces you to participate and not go it alone in isolation
- Forces you to acknowledge your misunderstandings
- Get feedback on whether you're on the right track or not

### **Strengths**

- When others in group are committed, real partnership in learning is felt
- Encourages climate of learning (110, 42)

Collaboration online is not without its tensions, even within the picture of success that the survey results and comments above provide. The small group nature of much of the work is dependent on all students participating. If two people in a group of seven decide not to participate, the number of potential linkages halves, dramatically reducing the extent to which the work that is required to be undertaken can be shared, perspectives developed, and ideas critiqued. In addition, prior online friendships affect the social balance of a group; the asynchronicity of the work can disrupt problem-solving discussion; and all the while the permanence of the text-based discussion leaves a trail of intellectual endeavour for the non-participant to absorb.

The delivery of the courses about which the participants are commenting, is best described as paced asynchronous delivery. While students are free to work in their own time and to contribute to discussion at their own pace, the discussions themselves are set to a specific schedule. Typically discussions in a course will last for 7 - 10 days before a move is made to a new topic. Students are expected to make a contribution to the discussion during the time when that discussion is active.

Paced delivery has not diluted a strength of asynchronous courses - that students can take the time to reflect on others' comments before responding. Tension arises, however, because each discussion has to move at a reasonable pace to enable adequate exchange, synthesis, and integration of ideas in the time allotted. While students reported taking time to reflect, they also noted the importance of quick responses to messages along with the difficulty of staying on top of the flow of discussion. The following survey items reflect these points.

**Table 4.** Pace of Discussions

Item	Strong agreement (%)		Overall agreement (%)	
	6-yr Survey	3-yr Survey	6-yr Survey	3-yr Survey
I would often spend time reflecting on and thinking about others' comments before responding (18)	33	35	73	82
Online discussions worked best when people responded quickly to my messages (21)	65	75	89	89
There were many times when it was difficult to keep up with all the online messages about course topics (23)	35	41	72	69

Table 4 points to a tension in the use of asynchronous online communication. The programme requirement of reflective comment was a good match with the affordances of asynchronous communication. Asynchronous communication, however, also means that the number of messages to be viewed by students, builds up while they are offline, making message reading a lengthy task. In addition, the paced nature of the discussion requires some commitment to timeliness in communication. The tension that exists between reflection and the pace of discussion is also seen in the comments that students make. The discussion provided a “valuable opportunity” (18, 18) and reflection on others comments was a case of: “You need to think about things before opening your trap!” (108, 18). However, time constraints were clearly signalled, as in: “Often too busy with assignments, and if lots of messages not enough time” (55, 18). One student reported “The discussion groups worked well to get to know people however it is difficult to discuss complex issues due to the fact we all organise our work at different times during the week and replies are slow” (33, 42), a statement that reflects both the value and the difficulties of a course reliant on asynchronous online communication.

Students developed strategies to deal with the need to respond, with selective reading of messages being the most prominent. They indicated this in statements such as “it becomes easier, as you progress, to notice who it is worth looking into to read, and which clusters of messages to ignore” (116, 23), and: “Just scanned for lecturer's notes/ messages and group members' messages when ultra busy” (10, 23).

The survey items reported above do not distinguish between the differing ways in which discussion might occur. This survey sought information about the perceived value to students of the range of ways in which they might pursue online interaction with others in support of their learning. Students were asked to rank seven modes of communication in importance for discussion of or learning about course material, from 1 (most important) to 7 (least important). The modes were: Small discussion groups - small groups of 5 - 8 students; Community site - an informal student only discussion site; Course discussion area - the space for whole class discussion related to a course, with a lecturer and from 25 to 70 students; Online chat rooms - synchronous chat facilities; then three categories of person-to-person mail, from a course lecturer, from a fellow student, from the programme's overall coordinator. Where students recorded a mode of communication with a ranking of 1 or 2 it was classified as ‘Most important.’ Where the communication mode had a ranking of 7 or 8 it was classified as ‘Least important.’

The small group/whole class discussion structure mentioned previously is used in all but one course in the programme. The small discussion groups rank in importance alongside the class discussion that involves lecturers as a favoured mode of interaction for learning. Figure 1 shows the percentage of students who rated these, and other modes of interaction available to them through WebCT, as very important places where learning-enhancing discussion occurred.

**Figure 1.** Percentage of students identifying a mode of communication as Most Important for learning.

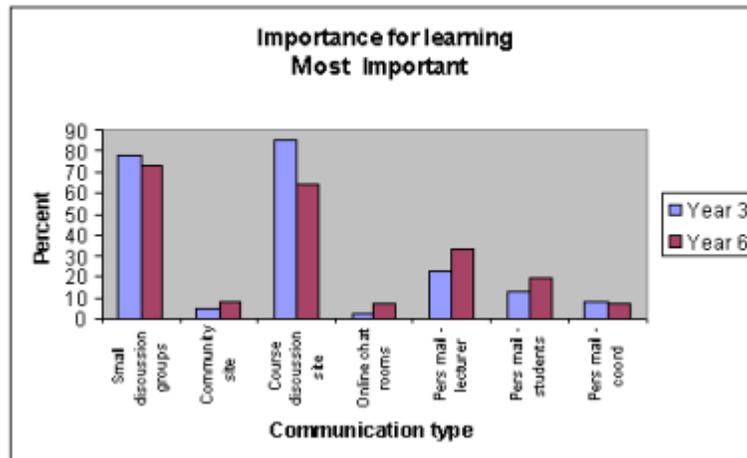


Figure 1 clearly shows that it is exchanges between groups of people, rather than individual exchanges, that students see as being of most importance in their learning. The importance of small groups as sites for learning has stayed remarkably constant across the surveys. The importance of the whole class course discussion site diminished from the third to the sixth year survey. This whole class area is the major site of lecturer involvement in discussion. The decline in importance of this whole class area possibly reflects the decrease in lecturer online presence perceived by students and reported in Table 2.

We do not suggest that small group discussion is a substitute for whole class discussion. The relative merit of each discussion mode is contingent on the course design. Students clearly see value in both aspects of discussion - a relatively free flowing small group discussion and a more formal lecturer facilitated discussion. Two items from the survey illustrate this. Students were asked to respond to the item: "Online small discussion groups were considerably more useful for my learning than the whole class course discussion site." Twenty-nine percent of students strongly agreed with the item; overall, 55 percent reported agreement, with only 16 percent reporting disagreement. It should also be noted, however, that 54 percent of students agreed with the item: "More whole class discussion of course topics would be useful" (14 percent disagreed).

### Affective Support

This section presents and discusses survey results relating to student perceptions of the manner in which affective support was part of their online interaction. We have previously discussed the importance of creating feelings of connectedness amongst students at a distance, and developing a

culture of support and care. The data we present shows the importance of the small groups in making that support available.

To begin, we should note that course material contained no stated or implied expectations about developing online relationships with other students. Responses to one of the survey items confirm that students perceived affective support as one of the outcomes of the online interaction. Seventy six percent of respondents report agreeing with the survey item: “Other EDO students provided affective support for me via online messages.” Only 80 percent disagreed. Next we find, unsurprisingly, that students report getting to know their fellow small group students well, in comparison to the whole class of students. Two contrasting items from the survey, shown in Table 3, illustrate this point. Note the high overall agreement with the first item about small groups, and the much-reduced percentage in overall agreement with the second item.

**Table 5.** Building relationships online

Item	Strong agreement (%)		Overall agreement (%)	
	6-year survey	3-year survey	6-year survey	3-year survey
I got to know the students in my small discussion groups well through our small group messages (25)	41	39	78	83
I got to know all students in my class group well through online messages (26)	5	33	41	47

Comments associated with these items, especially the second, stressed the difficulty of getting to know a large number of students online. One student asked: “How the heck are we meant to get to know that many people??? There are some ‘out-of-my-group’ people who I know, but it's through making an effort to personally meet them and also the types of messages they put online” (108, 26), and a second commented: “No way you can get to know all, you would never leave the computer!” (68, 26). The sheer number of relationships involved in knowing all class members prohibits full engagement across the entire group.

Figure 2 indicates the importance students place on the different modes of online communication as discussion spaces through which they might receive affective support. Given the results reported above, the distribution of responses comes as no surprise. Students see their small groups as the most important source of affective support within the programme. The procedure for generating Figure 2 is as for Figure 1, except that students were asked to rate the modes of communication in order of importance according to the support and encouragement they received.

**Figure 2.** Percentage of Students Identifying a Mode of Communication as ‘Most Important’ for Affective Support

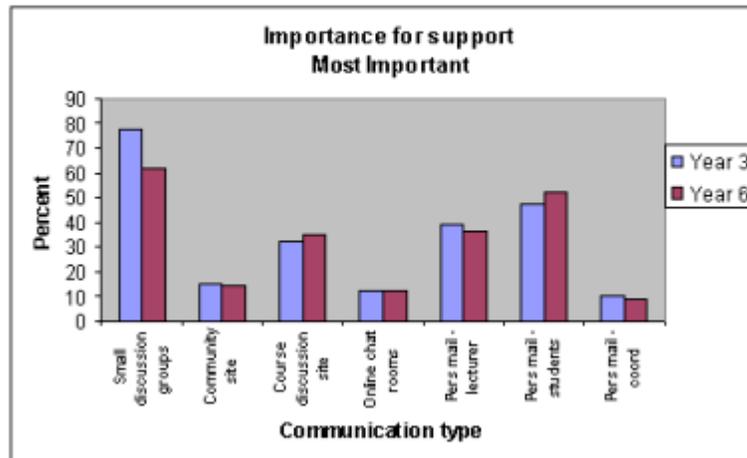
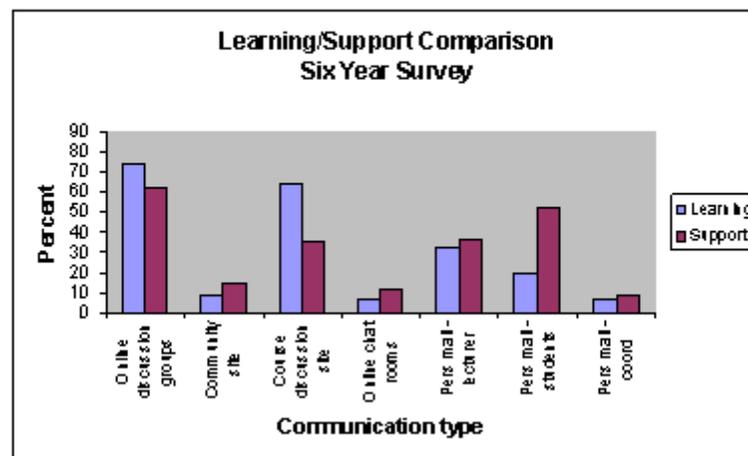


Figure 3 provides a comparison between the levels of importance of the communication modes for learning support and affective support at the six year survey. It reveals three points of interest. Students make clear distinctions between the avenues through which learning support and affective support are provided. Most notable here is the large decrease in the importance of the course discussion site as an avenue for affective support in contrast with its role in support for learning. A second point is the clearly evident increase in the use of personal mail as an avenue for affective support in contrast with its role in support for learning. Finally, this figure clearly identifies the importance of small groups to the students, since those groups feature prominently as sources of learning and affective support. Despite this prominence and importance, students report that the use of small groups was not without problems. The next section addresses some of the issues students reported.

**Figure 3.** Percentage of Students Identifying a Mode of Communication as “Most Important” for Learning and Affective Support at the Six-year survey.



## Small Groups Online

Placing students in small groups with common membership across a range of courses provides the potential for students to develop close intellectually and affectively supportive links. Students made a considerable number of comments about the small group nature of much of the online discussion. To understand their comments here it is useful to know that students will work in a number of small groups during the programme. The ideal will see students working in a different single stable group for all courses in each semester, thus providing them with the opportunity to work with six different sets of five to eight people during their programme. The exigencies of the programme and of student life are such that this ideal is not always realised. A core of members will always be present, but group size and membership can vary from course to course during a semester, and thus students experience some small variation in group contexts.

The value of small groups is reflected in the comments students made within the survey. Comments such as: “Really enjoyed online discussion groups” (1, 42) and “the discussion groups have been invaluable during my course” (112, 42) are an endorsement of the small group infrastructure. The longevity of the small groups and the extensive experience of small online group processes gained by students during the programme may be a key to the success of the groups. Rose (2004) suggests that collaborative groups with a common history, that are together for more than three weeks, effectively develop high levels of interaction, coordination and shared knowledge.

The data also indicate a concern on the part of some students. The concern that emerges relates to group participation and group dynamics and can be seen in comments such as: “The online discussion groups work excellently when those who are in the group want to be working with others and sharing ideas. At times, sometimes all year, there are groups that don't function because people choose not to participate” (108, 42) and: “Discussion groups can work well or, depending on people in them, they can work poorly due to non-attendance, lack of leadership, consensus” (35, 42).

Non-participation in group online activities was the major concern. Comments ranged in severity from the simple statement:

Weakness . . . the inability of other students to contribute to weekly group tasks  
(100, 42)

through concern

Everyone needs to be involved for groups to work well. It is very frustrating if you are trying to do all the set work but are not getting any feedback. (37, 42)

to feelings of inequity

We feel used by those people who never/seldom contribute, but are still able to follow group and class discussion. If you were on campus, you don't get to hear what goes on in a lecture/tutorial unless you attend! (108, 42)

Time gets wasted and motivation decreases when you are in a group where there is one member not pulling their weight and/or not presenting relevant work or

work up to standard. The rest of the group has to carry these people, which is grossly unfair (109, 42).

These comments clearly highlight the difficulties arising from non-participation. However, the point to be taken from the analysis is that of group variability rather than individual non-participation. Some students were members of a group they saw as highly effective, while others were deeply concerned with the level of participation. Differences in group participation result from variance in group composition entry variables (Carabajal, LaPointe, and Gunawardena, 2003). In the context of this research, four of the five entry variables noted by Carabajal, LaPointe and Gunawardena, will be very nearly constant across all groups - group size, task types, behavioural setting, and culture. Groups are all a similar size; they are undertaking the same tasks over the same timeframe; they are involved in the same educational setting; and, members share similar cultural backgrounds. The remaining variable - member characteristics/attitudes/skills - must therefore account for a large amount of the variation seen between groups. Developing understanding of the ways in which individual attributes operate to impact on participation offers fertile ground for future research and the opportunity to develop further knowledge of group development.

## Conclusion

The work reported here adds to our understanding of the interaction that occurs between students in online learning environments. Evident in the data is that every mode of communication has some value for learning and affective support, although small groups and the whole class discussion space featured prominently. Students clearly differentiated between their use of small groups and the whole class as discussion spaces for learning and for affective support. For nearly all students, small groups had value for both communicative functions, while the value of the whole class space in terms of affective support was considerably lessened. Despite the value of small groups, students saw non-participation in groups as a major issue with implications for workload, the value of learning activities, and motivation to continue engagement with the group.

This study provides insights that may be useful to many involved in distance education, including lecturers and course and programme designers. It also supports the need for ongoing exploration of the nature of group processes in small online learning groups and investigation of differential student responses to the range of contexts for interaction available in online distance education courses.

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## ***Use of Distance Education by Religions of the World to Train, Edify and Educate Adherents***

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### **Abstract**

Islamic, Hindu, Buddhist, Baha'i, Jewish, and Christian organizations are all experimenting with distance education for various reasons and to different extents, due to religious, economic, and political factors. Religious institutions worldwide are not only turning to the World Wide Web (WWW) to place information concerning religious beliefs and provide virtual services for their constituents but are also getting more involved in formally educating their members at a distance. This paper will document some of these educational efforts and the reasons behind the expanding use of distance education by several of the major religious institutions for training, edifying, and educating their religious adherents.

**Keywords:** distance education; distance learning; religion; religious education and training; religious institutions; theology

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### **Introduction**

In his book, *The Soul of Cyberspace: How New Technology Is Changing Our Spiritual Lives*, Jeffrey P. Zaleski points out that the online world “is a world of mind alone.” He asks some poignant questions: “How will the human spirit fare in such a realm, sundered from the mystery of the flesh? . . . What effect does surfing the Web have on mind, on conscious, and, most importantly, on attention – the basic tool of spiritual realization? . . . Does cyberspace . . . present a particular challenge to spiritual work?” (1997, p. 6). These are the same questions that leaders and academics from most religious institutions have as they consider the opportunities and challenges associated in reaching out to their membership using distance learning models and technologies.

Religious institutions<sup>1</sup> from across the world appear to be developing and experimenting with distance learning for a variety of reasons and purposes. Even though “little has been written and published on distance education in North American theological education” (Amos, 1999, p. 126) as well as theological education at a distance worldwide, the trend to more religious use with and involvement in distance learning has become apparent to the authors. Accordingly, this paper is a

synthesis of a literature review – which yielded little research in the area – and a significant amount of original research based primarily on interviews with religious leaders and academics associated with religious institutions involved in formal distance learning efforts.

Helland (2002) classified religions that use the Internet as either “religion-online” (simply presenting information about religion with limited participation) or “online-religion” (providing an interactive religious environment). These two classifications could include using the Internet as an information resource (by providing documents, services, directories, calendars, and specialized resources for religious use), for virtual worship services, to facilitate other types of online religious communication and communities, and even to proselytize non-adherents. For this article, the focus will remain on how religious institutions are increasingly using the Internet and distance education models to educate their adult membership as an organized, formal course of study – arguably a category all its own.

Those creating religious distance education programs identify the reasons for their efforts from simply desiring to keep pace with others, to fulfilling some kind of mission or purpose that is foundational to the religion's doctrine or credo. The polarization between faith and reason in a largely secular society has led some religious institutions to believe that distance learning may provide a way to bridge secular and spiritual gaps in the minds of learners by offering courses that seek to integrate the two.

This paper begins by providing background to the factors that have influenced the growth of religious institutions' use of distance education. Then it provides some examples of distance education efforts from many of the world's major religions and an examination of the catalyst(s) behind such efforts. The authors conclude by offering ideas about future trends in religious use of distance education and suggestions for additional research.

## **Background**

How religions view both formal and informal education doctrinally, culturally, and traditionally can differ greatly from religion to religion and even within a religion, and thereby influence the use of distance education to train, edify, and educate its adherents. For the purposes of this paper, *formal* education is defined as an organized course of study that usually requires some kind of registration and often leads to a title, degree, or certificate. Most of the major religions of the world, in combination with other educational methods, support some form of formal education where instructors and learners are separated by time and space, with some kind of communication medium (e.g., mail, Internet, etc.) to connect them.

Although religious institutions might use technology and the World Wide Web to support everything from internal communication to external proselytizing, religious applications of adult distance learning generally comprise an effort to extend religious-based instruction to three classes of constituents: 1) seminaries (primarily for the training and theological education of clergy)<sup>2</sup>, 2) university students attending church-sponsored or -affiliated universities and colleges, and 3) members of the laity in an effort to build faith, educate about doctrine, strengthen community, and extend other lifelong learning opportunities<sup>3</sup>. The purposes and extent to which each religion has employed distance instruction to these groups of constituents will always be influenced by a number of political, economic, and religious factors.

## Training Clergy and Laity

Almost every major world religion has congregations and adherents both near and far in need of better trained clergy, or religious leaders. Various Islamic, Hindu, and Christian denominations have all attempted using some type of distance education model whereby the “lay ministry” (a member of the laity that is taking ministerial responsibilities) can receive continuing education wherever they may be practicing. Additionally, faculty and students alike at traditional brick-and-mortar theological schools are exploring more flexible and blended instructional and distance delivery options to better meet the needs of non-traditional students and mobile faculty. Thus, many of the initial efforts of faith-based organizations to implement distance education programs have been primarily from seminaries for the theological training of clergy. This is changing, however, as “a growing literature base advocates theological education of the laity and a return to the importance of education of the whole people of God [regardless of whether they have ministerial responsibilities or not]” (Cannell, 1999, p. 54). For example, some of Buddhist organizations in Thailand and Sri Lanka now offer correspondence education courses where lay members can learn more about their faith and receive a certificate or diploma for completing course work (Dr. Lewis Lancaster, Personal Communication, March 16, 2004).

## Higher Education and Piety

The scope of curricular content in distance education courses is also extending beyond strictly theological education, as more people of faith are placing value on receiving higher education. Dr. James Stewart, the associate dean in the School of Distributed Learning at Bethany College, sponsored by the Christian Assemblies of God organization, has noted a change in the focus of Christian educational efforts since about the 1960s. Prior to that time, he felt as “if there were almost an anti-education philosophy, that if you were educated then you weren't spiritual” (Personal Communication, February 9, 2004). The *Encyclopedia of Protestantism* (2004) corroborates this claim, outlining many periods in history when revivalists considered all forms of critical learning based on reason (and not faith) as a threat to piety. Some churches today (e.g., Jehovah's Witnesses, Amish, Mennonites, Hutterite Brethren) are still hesitant to encourage higher education, feeling it might distract from faithfulness as well as family and ministerial responsibilities.

Dr. Stewart has noticed, however, that most churches are beginning to see secular education integrated with religious values as being just as important in parishioners' preparation for their “life ministry” as the spiritual training. Prior to the 1960s, he said, it would have been rare to see a minister with a Bachelor degree, but now all church members are encouraged to pursue college education and even advanced degrees (Personal Communication, February 9, 2004). The emphasis on higher education by religious institutions can be seen in examples such as Andrews University (Seventh-Day Adventist), whose motto is “*Educar es Redimir*” (to Educate is to Redeem), and the fact that many church organizations have departments of Collegiate Ministries. Another example is the fastest-growing Christian church (Church Executive, 2004), The Church of Jesus Christ of Latter-day Saints, whose current leader, President Gordon B. Hinckley, told the youth of the church in a recent worldwide address: “You need all the education you can get. Sacrifice a car; sacrifice anything that is needed. . . . You belong to a church that teaches the importance of education” (*New Era*, 2001, p. 4). Because distance learning can make more secular and spiritual educational opportunities accessible to more of their members and students “anytime, anywhere,” many religious institutions are enlarging their role as an education provider, especially to their own constituency. Distance learning is one of the ways by which

religious-affiliated universities and colleges are meeting this need to integrate the spiritual into the secular.

## Church and State

In many areas of the world, as is the case with most of the Islamic countries, there is not a clear separation between church (or mosque, synagogue, etc.) and state, and no perceived separation between the spiritual and the secular. Similar to many Western countries of centuries past, these governments do not usually separate religious credos from legal decisions. That means that almost any educational effort within these countries is, in essence, the product of a religious institution. There are currently 58 member nations of the Organization of the Islamic Conference (OIC), which is the global intergovernmental organization of Islamic states (see <http://www.islamicnews.org/english/index.html>), each with different degrees of interest in and acceptance of distance education. Although Nasser and Abouchedid (2000) of Notre Dame University indicate that in many Arabo-Islamic countries (e.g., Lebanon): “Ministries of Education do not officially recognize higher education degrees obtained by distance” (p. 1), some Islamic organizations (from both Arabic and non-Arabic countries) are very interested in how distance learning can be used to “make Islamic culture the basis of educational curricula at all levels and stages” and “safeguard the Islamic identity of Muslims in non-Islamic countries” (Islamic Educational, Scientific and Cultural Organization, ISESCO, <http://www.isesco.org.ma/English/presentation/present.html>).

There has also been a trend in certain democratized countries, such as India (largely Hindu) and Turkey (largely Islamic), toward a more Western model of secular government. In these countries, religiously sponsored educational institutions, as a result of political and social influences, have often been marginalized (Dr. Ilhan Yildiz, Personal Communication, March 5, 2004) and lack much of the comparative prestige and resources that are helpful when exploring and expanding new and innovative educational models, such as distance education.

This marginalization of church-sponsored educational institutions by some governments also extends to communist societies. While some may argue that communism is itself a religion (McFarland, 1998), religion in the traditional sense as well as any religious education – much less religious-sponsored general education – is still discouraged in communist states. For instance, although China has passed legislation to promote private universities, none of these private institutions claim to be affiliated with any religion (Dr. Jin Lin, Personal Communication, March 10, 2004).

In the Western world, countries like the United States of America have experienced a shift away from their religious influence toward a more pluralistic and secular influence in their state-sponsored institutions. The dilemma of being taught one thing in the place of worship and another – and often contradictory – thing in the public school, is an intellectual and spiritual challenge that is common to students, especially in a secular society. The reaction to this trend has “led to an increas[e] in home schooling and private schooling, as well as legal battles over governmental regulations of public schools” (*Encyclopedia of Protestantism*, 2004, p. 649). This general polarization and compartmentalization of teaching only the secular out of a moral/ spiritual context in the public arena has caused some religious institutions to assume a greater role in the formal education of its membership. At the elementary and secondary levels (i.e., K-12), Home Study International (7th Day Adventist), Kolbe Academy Home School (Catholic), and the Sycamore Tree Center for Home Education, are just a few of the many distance education

providers that offer parents who home school their children a faith-centered curriculum that is nationally accredited in the United States.

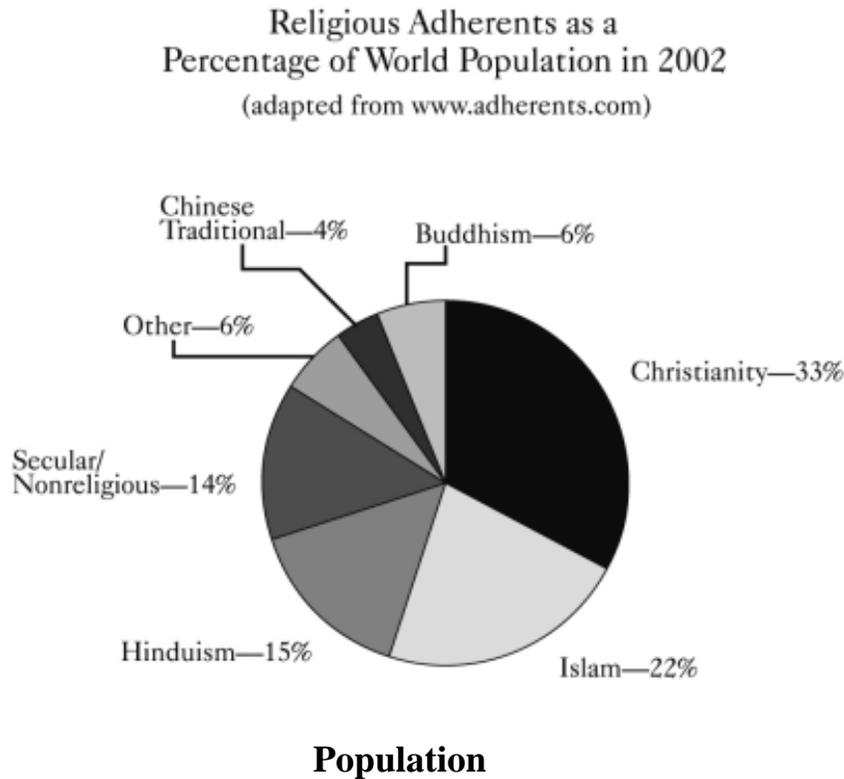
## **Competition and Quality of Education**

Aside from any religious or moral motivation, Cagney (1997, as cited in Cannell, 1999) gives a pragmatic recommendation for theological schools to start introducing distance education or face the risk of not keeping up with those who do. This observation was further supported in conversation with the director of collegiate ministries, United Church of Christ, who says most of their colleges are using distance education like any secular institution would, because “that is the way competition is” and that there is “very little religious motivation behind [their use of distance education]” (Steven Johnson, Personal Communication, March 8, 2004). But regardless of any influences that encourage religious-affiliated institutions to develop applications of distance learning, there is still a feeling among certain religious institutions that they should move more slowly in supporting such efforts, “until quality course design has been demonstrated, until a greater number of primary resource materials for theological disciplines are electronically accessible, and when the medium can prove that interactivity is possible and effective” (Cannell, 1999, 54; see also Bellinger, 2003; Crosby, 1997).

The authors believe that many of these barriers to adoption and concerns about design, resource materials, and interactivity have been mitigated by technological and pedagogical progress in distance education the past five years. Furthermore, great strides have been made in establishing standards and determining how best to assess and support quality instruction in this new teaching environment (McLoughlin and Luca, 2003). Many religious institutions have established an educational strategic plan that includes distance education, and now is the time for many others to do the same as distance education models mature and best practices emerge. Quality course design in theological education, however, extends beyond effective transmission of content knowledge, cognitive development, and even development of thinking skills (Kilmurray, 2003) into the affective realm “found in terms such as moral development, formation, spiritual maturity, character, and other relatively intangible goals” (Patterson, 1996, p. 66). Although most believe you do not need to be in a mosque or a church to have direct contact with God, many believe that the interpersonal learning relationships that exist in the classroom help them draw closer to the divine. There is compelling interest from most religions of the world to find ways to use technology to extend educational opportunities without compromising the affective and spiritual growth and development of their members or students (Amos, 1999; Reissner, 1999; Baig, 2001; Patterson, 1996). This underlying interest of fostering and preserving affective and spiritual growth and development in the context of constantly changing political, economic, and religious environs will continue to influence the demand for distance learning by religious institutions.

## Examples of Distance Education Efforts

**Figure 1.** The Major Religions of the World as a Percentage of World



In Figure 1, the majority of people on earth ascribe to some religion. The world's largest faiths are really conglomerations of smaller sects or denominations, which makes it difficult to deliver many specific statements which would hold true for the entire religion, especially about orientations to new technological innovations and opportunities afforded by distance education. For example, between China and Southeast Asia even the canon of Buddhist religious texts only overlap by approximately 10 percent (Dr. Lewis Lancaster, Personal Communication, March 16, 2004), so making any kind of definitive statements about the orientation of all Buddhists toward something like distance education is virtually impossible.

In addition, the world's religions exhibit varying degrees of decentralized authority. For example, within the Christian denomination of Presbyterianism, although the genesis of the denomination began with the French lawyer John Calvin (1509–1564), members today could be affiliated with independent Presbyterian churches within the U.S.A., the Presbyterian Church (U.S.A.) – which is a merger of 11,200 congregations and 21,000 ordained ministers (<http://www.pcusa.org/navigation/whoware.htm>), or any number of Presbyterian churches that exist internationally – each autonomously governed. Although practitioners of certain faiths may have similar beliefs, there is not necessarily any governing authority over all of the independent congregations. This type of decentralization of governing authority is so common among the world's faiths that discovering all of the examples of adult distance education, much less ascribing motivations behind such efforts, becomes a difficult task indeed.

In addition, educational institutions that might be expected to integrate faith and scholarship (e.g., Banares Hindu University, Israel Open University, Southern Methodist University) remain largely secular (aside from offering some religion courses), and some institutions that might be expected to be secular (e.g., American Open University) have faith as the foundation for their existence. Indeed, many secular institutions will offer courses on religion, even at a distance, but they are not the focus of this article. Confusion further arises as religious-based educational institutions (e.g., Moody Bible Institute) are founded by one who belong to the sponsoring religion, but not by the religion itself. Despite limitations such as these, the authors have researched and interviewed leaders and/ or academics representative of many of the world's largest faiths, especially those that seem more involved in adult distance education, and summarized some of the findings below. The interviewees were chosen because, when contacting the headquarters for a religious body (or universities associated with them), we were directed to these people as the person(s) who was/ were considered knowledgeable about that religion's distance education efforts. Still, the above-mentioned limitations, along with a host of other complexities, including changes in distance education models and technologies, should be considered when reading the following examples. Perhaps the most valuable thing the reader will gain is insights into how each religion is beginning to use the “concept” of distance education, or how the concept of distance education might figure into their overall orientation toward education.

The religions that are highlighted below were chosen mainly because of their size (Islam, Hinduism, Buddhism, and Christianity). Although Chinese Traditional religions make up four percent of the world's population, they are not discussed in depth because of lack of involvement in distance education. Both Judaism and the Baha'i faith with relatively fewer numbers of adherents are discussed, although in less detail, because of their international influence and integration of distance education. Because creating formal distance instruction is usually motivated by a religion's overall approach to education, each section begins by touching on the overall orientation to education in general. Although not every religion is represented, and the ones that are represented are only sampled, the adoption and integration – “conversion” – of distance education methods is evident in many religions of the world.

## **Islam**

There are nearly 1.3 billion Muslims in the world today (Noss, 2003; or see <http://www.adherents.com>). Mamdouh Mohammed, of the American Open University, gave some reasons for Islamic interest in distance education. He spoke of the saying by Muhammad that seeking knowledge is an obligation by every Muslim, male or female (Personal Communication, 2004). Dr. James Badawi (2004) seems to indicate the same feeling. He said: “The Qur'an speaks highly of learning. The first word revealed of the Qur'an was, 'Recite,' or 'read.' As long as they were true to their faith, and to Qur'anic injunctions about learning, Muslims established a civilization that saw great advances in science and in the humanities” (p. 1). According to the website for Federation of the Universities of the Islamic World (<http://www.isesco.org.ma/English/Fuiw/index.asp>), there are currently 193 Islamic-affiliated universities. Because of the emphasis on education and the growing availability of supporting telecommunication infrastructure, the likelihood of the growth and success of more Islamic-based distance education efforts in the future is very high.

Although the Islamic population is not only Arabic (and there are many Arabs of other faiths), integrating this type of education into Arab-Islamic society has not consistently been met with optimism. There are currently 58 member nations of the Organization of the Islamic Conference

(OIC), which is the global intergovernmental organization of Islamic states (see <http://www.islamicnews.org/english/index.html>), each with different degrees of interest in and acceptance of distance education. According to Nasser and Abouchedid (2000) of Notre Dame University:

. . . in many Arab countries there has been no real implementation of distance education. Despite attempts by local institutions and international organizations like UNESCO to promote regional cooperation through distance education, Ministries of Education do not officially recognize higher education degrees obtained by distance in a number of Arab countries (e.g., Lebanon). Though the Arab Ministers of Education convened in the Lebanese capital, Beirut, on September 18, 2000, and announced the establishment of the Open Arab University in the year 2001, most education decision-makers remain militate against distance education. In fact, strategic thinking is counter weighted by negative attitudes towards the workability of distance education. While the battle for and against distance education goes on, neither policy nor basic research has examined the views and concerns of schoolteachers and directors towards the implementation of distance education programs in the Arab region (p. 1).

It is important to recognize that large Islamic populations exist outside of the Arab world in countries like Indonesia, Nigeria, and China. Despite the reluctance of some Arab-Islamic governments to embrace distance education, many other Islamic institutions still see it as a way to “develop applied sciences and use advanced technology within the framework of the lofty and perennial Islamic values and ideals”; “make Islamic culture the basis of educational curricula at all levels and stages”; and “safeguard the Islamic identity of Muslims in non-Islamic countries” (Islamic Educational, Scientific and Cultural Organization, ISESCO, <http://www.isesco.org.ma/English/presentation/present.html>).

Four of the main Islamic-affiliated distance learning providers are Allama Iqbal Open University, based in Islamabad, Pakistan; the Islamic American University (IAU), sponsored by the Muslim American Society; the American Open University; and the Arab Open University. Allama Iqbal Open University is primarily a distance teaching institution using multimedia techniques, correspondence packages, and radio and television broadcasts specially prepared for distance learners. The Arab Open University, based in Kuwait, is partnering with the Open University (UK) and UNESCO to provide quality distance education in that area of the world. Although they have just launched their program within the last two years, their plans include setting up university branches in a number of Arab countries, including Kuwait, Saudi Arabia, Bahrain, Jordan, Lebanon, and Egypt.<sup>4</sup> There are also a number of independent Islamic universities (e.g., Sharif University of Technology [SUT] in the Islamic Republic of Iran) that are beginning to develop distance learning.

## **Hinduism**

There are nearly 900 million adherents to the Hindu faith (<http://www.adherents.com>). Nobel Laureate Rabindra Nath Tagore called Hinduism the “Religion of Man,” saying that the “Vedic” and “Veda” mean knowledge, and that the foundations of Hindu tradition are truly knowledge based. Gandhi advised his followers to consider how technological and economic progress would affect the poorest of the poor, and to see themselves as trustees and not owners of their financial and intellectual endowments (Swaminathan, 2001).

Education has always been a core part of Hindu tradition, with temples and ashrams serving as centers of learning and teaching. Although previously the focus has been more spiritual training, more emphasis is now being placed on secular and sacred disciplines together, with Hindu-based organizations, like the Hindu University of America, emphasizing that the Hindu system has the ability of building “harmony amongst apparently conflicting things – secular versus sacred, science versus religion, etc.” (<http://www.hindu-university.edu/>).

India, the country with the largest Hindu population, has experienced external and internal influences, including secularism, which have subsequently limited the number of explicitly Hindu-sponsored institutes of higher education. The Hindu University of America, the Bhaktivedanta Institute of Science, and a few Veda colleges in the U.S. do offer degrees based on modern research and ancient wisdom taught at a distance. The Ayurvedic Academy in Seattle, Washington, offers distance education courses in Ayurveda to its students who can earn a Master of Hindu studies degree in Ayurveda, with significant course work available at a distance. Also, the Holistic Center in New York City, U.S.A., now offers an online two-year certification program in conjunction with Westbrook University. Graduates of this program can transfer credits toward a PhD in Ayurvedic medicine through Westbrook. In India, Sri Sathya Sai Veda Pratishthan (at Secundrabad) is setting up a Virtual Veda University. They have brought up all Veda-sakhas, sacred writings, including 96 Upanishads, onto the portal at [www.vedamu.org](http://www.vedamu.org). Additionally, the Hindu University of America has launched a distance education and correspondence program, currently offering Masters and Doctoral degrees in three areas (Hinduism, Hindu philosophies, and yoga philosophy and meditation). Although they are clearly still in the development stages, they remain optimistic about the future (Dr. Kuldeep C. Gupta, Personal Communication, March 16, 2004). These notable examples of some Hindu-based distance education, while demonstrating use of distance education methods and technologies by some of the Hindu faith, should not be construed as a widespread integration among the Hindu religion.

## **Buddhism**

Some consider the Buddhist tradition, now with 330 million adherents, as the first world religion to break free of one local area, spreading into other areas of the world, and the first to have sacred texts translated into many languages. Dr. Lewis Lancaster said: “When any technology comes along, it is easy to see how the philosophy that took Buddhism along trade or mercantile routes would take it through things like the fiber-optic cables of today” (Personal Communication, March 16, 2004). Although in some ways Buddhist groups are even more diverse than those in Christianity, Buddhists today are beginning to organize a much more global effort than even 50 years ago.

Similar to what is the case in Christianity, Buddhist societies have seen the formation of two types of educational institutions. One is the monastic colleges/ institutions (like Christian seminaries). In countries like Sri Lanka, teenage boys are required to attend monastic institutions for three months as a form of filial responsibility to their mothers. Following that period, each boy has the option of staying or leaving. In the 20th century (and even earlier in Japan) Buddhist groups began setting up institutions of higher education, the equivalent of any university in the West. There are currently dozens of these universities scattered across countries like Japan, Korea, Taiwan, Thailand, and Sri Lanka.

Faju University in Taiwan has a very active Web site ([www.cbta.com](http://www.cbta.com)), offering text-based online courses and providing online many of the Chinese Buddhist texts. As mentioned in the

introduction, both in Thailand and Sri Lanka, there are some forms of correspondence courses in which anyone can take a test and receive a certificate that indicates they have learned the religious content. While there are not many Buddhist-affiliated degree-granting universities that provide distance learning, a new Buddhist college in Los Angeles, the University of the West, will stream its first course over the Internet to San Diego and the San Francisco Bay Area – and perhaps to Taiwan in summer 2004 (Dr. Lewis Lancaster, Personal Communication, March 16, 2004).

## **Baha'i**

With nearly six million members (<http://www.adherents.com>), the Baha'i faith is also expanding its influence through distance learning. The Wilmette Institute was established in 1995 and is an agency of the Baha'i faith in the United States (<http://www.wilmetteinstitute.org>). The institute is dedicated to offering courses on Baha'i topics, both in its classrooms in Illinois and through distance learning; it is currently offering a dozen distance-learning courses per year with an average of 350 students from the United States and about 40 countries.

## **Judaism**

Rabbi Joshua Heller at Jewish Theological Seminary confirmed that “Education is an essential value to Judaism,” and this faith, comprised of nearly 14 million people, does “take education very seriously” (Personal Communication, February 17, 2004). The Kaminer Center for Distance Education is one example of Jewish-affiliated distance learning available to students, professionals, and lay people. This organization has online courses that offer access to interactive resources, a learning community, and contact with scholars and teachers from the Jewish Theological Seminary. There are also other Jewish organizations and universities that are experimenting with distance education.

## **Christianity**

Having nearly two billion adherents, Christians, with their affiliated seminaries, colleges, and universities, have become the most active in using applications of distance learning. Zaleski (1997) reports that as early as 1997: “Christian websites made up more than 80 percent of the websites of the world's five major (i.e., most influential) religions” (p. 99). Interestingly enough, the educational institutions sponsored by Christian churches rank among the largest sponsors of these websites. The Christian emphasis on education is also reflected in the literally thousands of institutions of higher education (colleges and universities) that are Christian affiliated and/ or sponsored.

Pope John Paul II in his message at the XXXV World Communications Day (May 27, 2001) encouraged the use of the “positive capacities of the Internet to carry religious information and teaching beyond all barriers and frontiers” (p. 2). When making the official announcement about the debut of the Catholic Information Center on the Internet (CICI), the Archbishop Martino said: “For the Church to fulfill her mission of teaching and serving all mankind, it is appropriate she make use of technology that offers the possibility of immediate, in-depth communication with the entire world” (as quoted in Zaleski, 1997). For a long time, this vision of being able to reach beyond all barriers and frontiers, increasing opportunities to bless the world with education, locally or internationally, has been one of the motivations of the many Christian pioneers of multiple denominations who have ventured forward past known horizons into what they have

hoped to be the promised land of distance learning. Although there are questions arising in the Christian literature (Reissner, 1999; Patterson, 1996), some fervently arguing that distance learning is an unsuitable medium for true Christian education (Crosby, 1997), there is undoubtedly a large and growing number of Christian-affiliated formal adult distance learning programs. *Baker's Guide to Christian Distance Education* profiles up to 150 Christian distance degree programs. Outlined below are only a few examples of the growing number of these programs.

- The Catholic Distance University (CDU) has enrolled over 10,000 students in its correspondence courses since 1983, and is now launching an online program (Retrieved on March 3, 2004, at [http://www.cdu.edu/courses\\_programs.asp](http://www.cdu.edu/courses_programs.asp)). Additionally, 25 Jesuit-affiliated universities have collaborated to create a type of virtual university, [www.Jesuit.net](http://www.Jesuit.net), which currently offers 190 online courses in 35 programs to approximately 8,500 students each year (Dr. Richard Vigilante, Electronic Communication, March 3, 2004).
- The Seventh-Day Adventists church has founded one of the oldest (1909) distance education programs in the world, Home Study International (HSI). In 1990, HSI renamed its collegiate division Griggs University, enrolling 950 students in 113 undergraduate independent study courses in 2003, of which 10 percent are computer-based (Dr. Joseph Gurubatham, Personal Communication, March 15, 2004). Also in January 1999, the Adventist Virtual Learning Network (AVLN) consortium ([www.avln.org](http://www.avln.org)) created a Web portal, <http://www.sdaedu.org/>, called the Adventist Distance Education Consortium (ADEC), now offering over 124 courses from Adventist-affiliated universities/ colleges.
- Because their evangelic mission statement has such a strong emphasis on reaching out to the communities they serve, the Assemblies of God church has created an extensive distance education provider called Global University. Global now offers courses to more than 178 countries around the world, in more than 145 languages through Internet, correspondence, and international study centers. All higher education enrollments, from institute level to Masters level, comprise 580,000 students (Thomas Harrison, Personal Communication, March 17, 2004).
- The Church of Jesus Christ of Latter-day Saints has recently begun a series of worldwide leadership training broadcasts. The central leadership of the church trains lay-clergy in nearly 200 countries via satellite broadcasts, simultaneously translated into over 50 languages. These training sessions are streamed over the Internet and subsequently distributed on DVD to local leaders for review and further training. Resources are also being contributed towards Web-based training for lay clergy and members. This church's main institution of higher education, Brigham Young University (BYU), began its correspondence program in 1921. Seeing a strong connection between faith and reason, spiritual and secular education, it is one of the largest correspondence programs of its kind in North America, enrolling 26,751 adult students during 2003, with 146 of the 301 paper-based correspondence courses now available on the Internet.
- Seminary Extension, a ministry effort of the six theological seminaries of the Southern Baptist Convention, states as its mission as providing "the delivery of Biblical, Theological, and Practical education to Christians wherever they live via Internet, CD-ROM, local live classrooms, and correspondence." Nearly 4,000 students take Seminary Extension courses either through the 500 Extension Centers (via live classrooms or classes on the Internet) and/ or through independent study (via correspondence, CD-

- ROM, and Internet). Additionally, in 2003 over 600 Florida Baptists participated in theological education in Florida through classes offered by the Baptist College of Florida (BCF) and New Orleans Baptist Theological Seminary (NOBTS) (Denman, 2004).
- In 1993, the Evangelical Lutheran Church in America (ELCA) issued a statement of eleven Imperatives for Theological Education ([http://www.elca.org/dm/te/appendix\\_c.pdf](http://www.elca.org/dm/te/appendix_c.pdf) retrieved March 12, 2004) that encouraged the seminaries to develop theological education for all members. This mandate spurred the eight seminaries of the ELCA, the Private Financial for Lutherans, and the Augsburg Fortress Publishers to combine their efforts to create The Fisher's Net. This strictly e-learning provider currently has around 2,000 users who participate in semester-long classes that contribute to degrees or certificates (Arne Selbyg, Personal Communication, March 5, 2004).
  - Beyond these examples, both Southern Christian University (SCU) and the Moody Bible Institute (MBI) are making considerable contributions in distance learning. SCU is partnering with the U.S. Department of Education and 14 other institutions of higher education and consortia to develop models designed to help enhance access to federal (U.S.) student aid for distance education-based programs. MBI, founded in Chicago in 1886, formed a correspondence department in 1901. It continues today with a total of over one million enrollments since its inception (Schlosser and Simonson, 2002). It began offering online courses in 2000, growing from 241 online enrollments in its first year to 1,130 enrollments between June 2002 and June 2003 (Sarah Peeler, Electronic Communication, February 25, 2004).

## **Future Trends and Research**

Despite some setbacks and skeptics, most of the religious leaders and scholars we interviewed remain optimistic about the future uses of distance education by religious institutions. Large faith-based distance learning efforts will likely continue with more collaborative agreements between the religious-affiliated universities and seminaries and/ or religious organizations that are fairly centralized and place a strong emphasis on education. These efforts will be focused on training clergy and providing degree-seeking university students of faith more flexibility in higher education and lifelong learning. At the same time, however, there will be a general increase of interest in and use of distance learning via the Internet or WWW for certain religions, only as the host countries build out their technological infrastructure and become more politically supportive.

The authors also predict that as globalization increases, state-sponsored institutions of higher learning will become more pluralistic and secular. This will likely create an increased demand for more faith-based education, which seeks to integrate spiritual and secular learning. Religious-sponsored distance education providers will also continue to struggle with the more common questions and concerns of when to use distance education, types of pedagogical models, desired outcomes, choices of technology, and financial implications.

Since the use of distance learning by religious institutions is a relatively unexplored and un-researched area, the authors encourage further scholarly inquiry into the issues and practices surrounding it. Experimentation by religious-based distance education providers in emphasizing the affective and spiritual, as well as the cognitive domains of learning, holds significant promise.

The authors acknowledge that each major religion was discussed only briefly. As such, they encourage more in-depth research on each religion's use of distance education. This research will

then contribute to a growing body of literature that will assist religious institutions in identifying best practices in distance education implementation, especially in their efforts to weld and integrate the secular and spiritual together as they reach out to train, edify, and educate their adherents. As more religious institutions articulate and share their educational mission, a clearer picture of the diversity, versatility, and role of faith-based distance education will also emerge. Finally, the authors encourage further inquiry into the larger role religious education – including distance education – may have in promoting not only the spiritual development of the individual, but also of society.

## Conclusion

Although it is difficult to identify and classify all the different approaches, attitudes, applications, and functions of religion on and in cyberspace (Karaflogka, 2002), it is clear that formal adult education at a distance is receiving increased attention by most of the world's largest religions. Even though these major religions differ in their theology and are influenced by a number of unique religious, economic, and political factors, many Islamic, Hindu, Buddhist, Baha'i, Jewish, and Christian leaders and scholars value the potential role distance education may have in assisting them in achieving their institutional mission. Ultimately, as an official at a Buddhist monastery in Tibet summarized, cyberspace has been designed in such a way that there is an absence of obstructions. “[This] creates the potential for something to arise. And the nature of what will arise there is dependent on the motivations of the people that use it” (Thomas E. Miller, as quoted in Zaleski, 1997, p. 280). Zaleski (1997) insightfully reflects that in a similar way to how our souls become what we make of them, “so will the soul of cyberspace, for cyberspace mirrors us in our entirety” (p. 281).

Reflecting in this mirror is the value many religious institutions place on the availability and quality of adult distance education programs. This reflection is shown in the increasing number of distance education programs and, perhaps more importantly, the sincere, searching questions developers are asking about how distance learning should be best used. Distance learning has allowed many religions to extend the reach of their seminaries to train clergy and for some to extend the reach of their affiliated universities to provide educational opportunities to their membership. In particular, distance learning has opened up many opportunities, previously unavailable, in reaching out in a way that is able to strengthen followers' faith within “the social context in which a student lives” (Schlosser and Simonson, 2002, p. 10).

The greatest educators throughout history (e.g., Confucius, Socrates, Mohammed, Jesus, and others) have ultimately seen education as most valuable in developing more than just what we know and what we can do, but especially in how that expanded knowledge and ability contribute to who we become, developing each individual and society in ways that best contribute to the good, the true, and the beautiful. Although many religions of the world and their affiliated institutions are still experimenting with different methods and media in using distance education, perhaps it will be the faith-based institutions that lead the way in discovering how to use distance learning most effectively in teaching “how to live,” not merely in teaching “how to make a living.”

## Terms and Definitions

**Affective** – Domain of learning concerned with inward disposition, feeling, intent, intention, earnest, reality; contrasted with merely cognitive development and/ or external manifestation.

**Clergy** – The clerical order; the body of men and women set apart by ordination for religious service in a church; as opposed to *laity*.

**Collegiate Ministries** – Religious administrative structure of a university; ministerial administration of degree-seeking colleges and universities.

**Correspondence Education** – The form of distance education that is paper-based; communication between teacher and students is by correspondence, not face-to-face.

**Laity** – The condition or state of a layman, the body of the people not in orders; as opposed to the clergy.

**Piety** – The quality or character of being pious; habitual reverence and obedience to God (or the gods); devotion to religious duties; godliness, devoutness, religiousness.

**Pluralistic** – Of or belonging to a pluralist or to pluralism; recognizing more than one ultimate principle in existence or being as contrasted to monism.

**Religious Institutions** – Organizations, including some universities and colleges, that are affiliated with or sponsored by a religious organization.

**Seminaries** – Schools or colleges created to educate persons for the practice of ministry and/ or for teaching and research in the theological disciplines.

**Theological Education** – Education that is mainly on spiritual topics, preparing persons for the practice of ministry and/or for teaching and research in the theological disciplines.

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## Endnotes

1. Words appearing in boldface are defined in the glossary.
2. The church's training of its own workforce, outside of the clergy, is another small beneficiary group of some formal distance education instruction, but this is not addressed in this paper.

3. This can include providing courses and instruction for parents who are teachers, particularly in the U.S., where home study is heavily influenced by religion to insulate children from secular or social evils while inculcating religious doctrines and values. Most of the time, however, this type of instruction is informal and facilitated by newsletters, online support communities, etc.

4. One of its missions is to “instill in its students the spirit of upholding deeply rooted social and ethical values of the Arab-Islamic heritage, and an appreciation for other human cultures and heritages” (<http://www.arabou.org/c1.htm>).



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## ***Telling Story! Voice in Photography: An online visual art critical studies program evaluation***

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### **Abstract**

This article highlights the current dialogue about educational technology and ways of knowing in visual art education. The authors outline and evaluate the development and testing phases of a hypertextual online visual art course offered at the then Emily Carr Institute of Art and Design (<http://www.eciad.ca/www/>) in the summer of 2001. Through this, we offer a framework for the evaluation of online visual art critical studies courses.

**Keywords:** online art education; digital technology; photography; hyper-textual online learning community; visual art

### **Introduction**

Although many other areas of education have debated at length the impact of digital technology, art education is in the early stages of considering how the use of computer technology affects teaching and learning in the visual arts (for example, see Dunn, 1996; Gregory, 1996; Gregory, 1997; Heise and Grandgennett, 1996; Julian, 1997; Krug, 1998; Prater, 2001; Taylor, 1999; Taylor and Carpenter, 2002; Taylor, 2004; Wongse-Sanit, 1997). This paper focuses on the use of a specific hyper-textual online learning community at Emily Carr Institute (ECI), an educational institution specializing in the visual arts based in Vancouver, British Columbia, Canada. ECI is one of the first specialty educational institutions to experiment with hyper-textual online learning communities in North America. In this article, we report the design, implementation, and preliminary testing of the pilot of *Telling Story: Voice in Photography*, which took place in the summer of 2001. Through this, we offer a framework for the evaluation of online visual art learning communities and argue that, although the use of hypertext in online learning communities has the potential to facilitate new ways of knowing, more research needs to be done on the lived experience of participating in an online learning environment in visual art education.

## **Technology in Art Education**

The dialogue of the impact of computer technology on teaching and learning in visual art education is at an early stage. Two frameworks may be adopted to examine this debate; the purpose of the technology itself (Bruce, 1991; Dunn, 1996) and the dominant discourse (Boshier and Onn, 2000) of technology in art education.

Dunn (1996) proposes five purposes for technology in art education: 1) as an educational tool; 2) as a creative tool; 3) as a research tool; 4) as a curriculum development tool; and 5) as an assessment tool. To this list, can be added as a medium, and as a communication environment (Bruce, 1991). Of the articles we have found, about half discuss technology as a tool for creative projects (Dunn, 1996; Freedman, 1991; Gregory, 1996; Heise and Grandgennett, 1996; Marschalek, 2002; Taylor, 2000; Tomaskiewicz, 1997) and half discuss technology as a communication environment or medium for critical thinking (Gregory, 1996; Heise and Grandgennett, 1996; Prater, 2001; Stankiewicz and Garber, 2000; Taylor, 1999; Taylor and Carpenter, 2002). If visual art educators are to incorporate technology into active, constructivist curricula, technology will need to be not simply an add-on, but a communication medium that promotes critical thinking and the development of new knowledge or perspectives.

The second framework we will adopt to examine the discourse of technology in visual art education is that of Boshier and Onn (2000), who argue that the four discourses of techno-utopianism, techno-cynicism, techno-zealotry, and techno-structuralism (“not interested in whether it is good, bad or neutral, but in the social context of where the Web is used”) construct the realities of educational practice. In reviewing the literature on technology in art education, we have found that a majority of the articles are steeped in techno-utopianism (Carpenter, 2003; Dunn, 1996; Gregory, 1996; Heise and Grandgennett, 1996; Prater, 2001), blindly adding technology to curriculum. Boshier and Onn (2000) state that techno-utopianism dominates educational discourse by constructing Web learning and education as a paradigm shift, demeaning earlier forms of education/ distance education, and impeding the continuing dialogue of teaching and learning with computer technologies.

If technology in art education is to be dialogued in a balanced way, we argue that the dialogue must move past technology as tool into technology as communication medium, and from techno-utopianism to techno-structuralism. Only at this point will visual art educators use digital interactive computer technology to construct new knowledge about art.

## **Overview of the Course "Telling Story"**

This online course asks: *How do we tell story in an age of information using photography?*

Story can locate both teller and recipient in the transitional experience of coming to know. Where we come to know, how, when and with whom, are questions that lead towards the authorship of our own lives – those stories that constitute living immediate culture.

- This online studio based course (with a seminar component) will place the photographic stories of its participants in the center of the group's inquiry. Participants will develop their skills to make photographs, edit, sequence, and work with a range of non-linear narrative structures and forms including the use of text.

- Relationships between oral, written, photographic and electronic media will be experienced and investigated. Participants are invited to use any format of photography that can be scanned and/ or digitized as originals or documentation. Both individual and collaborative projects are included.
- This course aims to create a learning community based on telling story through photographs that includes distance learners from diverse cultural, economic and geographic backgrounds. Designed to educate participants through visuals and design as well as through written stories and instruction, this course itself is an articulation of its own content.
- Students from ECI will meet with the instructor for an introduction to the course during week one. Distance participants are invited to join the class in Vancouver or will be supported by the instructor during the introductory section of the course.
- As this course is online in a largely asynchronous environment, where participants can schedule most of their own learning activities during each of the 14 week periods. Digitized photographs can be easily uploaded into the educational software used. Forums and chat spaces will be available for communication between participants and with the instructor.
- ECI computer resources are available for students registered in the institution. Participants can use their own computer resources at home as well. Both MAC and PC computers can be used. Participants using their home computers will need to have either Netscape or Explorer and Photoshop installed and a means of scanning or digitizing their photographs.

### **Purpose and Scope of the Evaluation**

Overall, this study was motivated by two questions: *What are the strengths and weaknesses of this medium for visual art critical studies courses? Are hyper-textual online learning communities a viable medium for visual art critical studies courses?* Formative evaluation processes for *Telling Story: Voice in Photography* the course, with one participant dropping-out after only reading the course materials, and one participant engaging in the formulation of this paper. In this stage, the evaluation tool outlined in Appendix A was used and feedback was accepted through email submission.

It is important for the authors to acknowledge their biases in this paper; both authors are relatively new to the area of educational technology and do not consider themselves to be technology experts. Both authors are equally concerned with artistic practise and the education of art, wanting to evaluate this course in terms of the strengths and weaknesses of this medium for the field of art education, in order to stimulate dialogue such that current and future art educators can “walk into this area with eyes wide open.”

### **Brief Overview of the Design and Implementation of the Course**

*Telling Story: Voice in Photography* was developed by Sandra Semchuk as a three credit course to be delivered as part of the curriculum of the Department of Photography (four year BFA) and the School of Media Arts at ECI. This course was developed concurrently as a face-to-face (F2F) course as well as an online course, and is designed for third and fourth year learners who have a

basic knowledge of Photoshop software, Web use, and have completed self-initiated projects in photography. Motivated by a desire to develop international learning communities using educational technology, Sandra has also found the experience has enriched her teaching practice and influenced her personal research in this area.

In terms of the design process, the course content was developed ahead of the infrastructure, starting in the Fall of 1999. Sandra states she found a lot of initial support in fellow faculty members, course designers, and available research. In the first year, most of the written text and half of the images were collected and compiled, constituting an “extraordinary amount of work.” Similar to other educators new to educational technology (Harasim, Hiltz, Teles and Turoff, 1998), Sandra found the change in logistics from a more spontaneous to a linear and less intuitive progression to be challenging. Other initial challenges included copyrighting the visual materials and deciding on the form of the website. The focus of the course from the onset, was to a constructivist epistemology (Bednar, Cunningham, Duffy, and Perry, 1992), in which dialogue, critical thinking and the creation of a student learning community was central. To some extent, the model of one of the professors from the University of British Columbia School of Nursing was utilised (Green, 2001), as this model has been successful at incorporating group and collaborative work, as well as a framework proposed by Narthouse and Harthose (1985).

In the second year, the form was determined, after vacillations between different models and possible educational software. The issue was how to offer technical support with the resources available. Sandra developed and digitized the visual objects for the course often using her own photographs or making new images. Photographs from ECI's student community were solicited as examples, digitized, and educational copyright was sought. Support for the interface design. was given by the Director of ECI's Center for Art+Technology. A student from ECI was hired to assist with building the website, and Sandra speaks of this student's involvement as integral to the project; “It was an enormous project with over two thousand documents and minimal resources.” Sandra states “the student who worked with me, Carollyne Ramsey, was also a teacher, so I saw her contributions as collaborative and consultative and well as being a learning experience for her.” Using Dreamweaver software, the course website was built over the period of approximately 3.5 months (120 hrs student's time and 400 of Sandra's time). Sandra commented that if she was to do it again, that she would integrate the format and content from the beginning, rather than writing then designing. She also commented that the learning curves for her at each stage of the development of the project were steep, involved learning new technologies at each step, and a great deal Internet research and reading.

In terms of design of content and format, this ultimately asks the question: *How do we tell story in the Age of Information using photography?* Information from the course outline (ECI, 2001) expands on this:

Story can locate both teller and recipient in the transitional experience of coming to know. Where we come to know, how, when, and with whom are questions that lead towards the authorship of our own lives - those stories that constitute living immediate culture. This online studio-based course will place the photographic stories of its participants in the centre of the group's inquiry. Participants will develop their skills to make photographs, edit, sequence, and work with a range of non-linear narrative structures and forms including the use of text. Relationships between oral, written, photographic and electronic media will be experienced and investigated. Participants are invited to use any format of photography that can be scanned and/or digitized as originals or documentation.

Both individual and collaborative projects are included (from "Telling Story" course outline, 2001).

The course objectives are seven-fold: 1) to be more aware of the narrative nature of experience, the value of photographs and story in creating and sustaining learning communities in a Web environment; 2) to be able to consider in their own photographic practise complex interplays between the oral, the written, and both analog and digital photography; 3) to be able to dialogue and collaborate using digitised photography within an online environment; 4) to be more aware of the adaptive strategies of contemporary storytelling using photography in an era of global communication; 5) to be able to develop narrative structures that disrupt conventional narrative and open up possibilities for audience participation; 6) to be critically more aware of social and cultural constructs that inhibit the communication of story; and 7) to be able to assess their own photography based on values that are integral to their own practise.

## **Evaluation Methodology**

### ***Data Collection***

In the overall formative evaluation process, participants included 14 learners in the F2F version of the course, two active participants in testing classes one and two, one reader of classes one and two, four professionals in the field of photography, including two photographer/ professors, and participants from the Squamish Nation (see <http://www.squamish.net/> for more information on the Squamish Nation).

### **1. Evaluation during the Design Phase:**

Although this course was designed for online use, a part of the evaluative process was to see how effective these materials as learning objects could be used in an in-class situation. The in-class presentations also gave additional opportunities to access, by direct observation, the learners' response to the course materials. For example, where there seemed to be a lack of clarity, the course was modified accordingly. Sections of the online course were also tested by the F2F learners; class two was projected in the classroom as visual learning objects to support curriculum, and learners spent more in-depth time with the course materials in the computer lab.

The hereditary chief of the Squamish Nation, Chief Bill Williams, Chief Ian Campbell, Aaron Nelson-Moody, Nancy Bleck and other members of the Squamish Nation assessed the content and Design of Class 13 in which their nation is represented. Their significant suggestions deepened and expanded the content.

### **2. Evaluation during the Testing Phase:**

The evaluation tool for the testing phase was developed by the authors with assistance from Carol Gigliotti's (ECI's Director of the Centre for Art+Technology) interface design criteria and is outlined in Appendix 1. It includes the categories of accessibility, art-making practice, and learning community/epistemology.

## ***Data Analysis Process***

In the design phase, data analysis consisted of direct observation of learners in F2F version of class by instructor as well as discussions with experts from the Center for Art+Technology, from learners in the School of Media Arts at ECI, and from members of the photographic and digital community nationally and internationally. In the final testing phase, email transcripts and verbal comments were reviewed by both authors and themes determined.

## **Results**

### ***From the Design Phase***

In the F2F version of the course, there was considerable excitement about the materials themselves, the visual ideas and the interface. It was clear, however, that the learners who were in the advanced stages of collaboration and group work, preferred the opportunity to have both their peers and their instructor in the flesh. It must be noted, however, that learners did not have an opportunity to engage one another in an online environment in that instance, so they were not able to experience the difference.

In terms of the sections of the online course tested in-class by the F2F learners, the two methods evoked different responses. The in-class method elicited more group interaction, whereas the computer lab method led to introspective responses where the dialogue with the material was internal. The transition from this introspective space to the group dynamics of the class was awkward. Perhaps a transition to small group dialogue with the materials would be more effective within the classroom situation.

## **From Evaluation Tool**

### ***Accessibility***

Overall the feedback was positive in this area. Evaluators found there to be a good mixture of images and text; one evaluator commented on the website being “beautiful, rich, and complicated,” while another commented on the “dense” nature. The non-linear nature of the website was commented on as being both an asset and a hindrance - an asset in the rich nature of the site and learning experience, but a hindrance to the desire to be able to print out the site's contents for ease of reading. The need for some experience with the Internet, and for time to ‘play’ with the website was acknowledged. One evaluator commented on the course being more demanding than he expected, a finding that is found in the literature (Harasim et al, 1998). Comments were also received on the few small technological glitches experienced, the sometimes lengthy download times for images and Quicktime movies, and the use of type colours to help facilitate reading. One participant commented on the positive nature of the asynchronous dialogue of the course: “I have time to ponder and formulate a response.” An important consideration for the authors was the concept of ‘transparency’ of the medium; evaluators' comments indicated that transparency was a strength of the course design. Overall, the comments were very positive as to the aesthetic experience, the amount of exploration and dialogue encouraged, and the centrality of the participant to the learning experience.

## ***Art Making Practice***

All evaluators found the course assisted with their own practice as photographers and storytellers; assisting to “revisit my own photographic practice,” stimulate thoughts, and to bring a fresh perspective. One participant commented that she was: “. . . starting to fill her journal with ideas . . . having the asynchronous nature helped me to share ideas as I was ready.” Another evaluator found that current art-making projects had become more “alive” through the readings and discussions.

## ***Learning Community/ Epistemology***

Overall, the evaluators found the course design to be helpful in the area of creating a learning community through the use of dialogue and group learning activities. One evaluator commented on the “rush” of learning that occurred as other participant’s contributions helped her to make new connections. Another commented on how they had “heavy thoughts regarding the course were with them all the time.” All commented on the non-hierarchical nature of the discussion forums, creating a “level-playing field” where opinions are sought, acknowledged and valued, and many points of view exist.

## **Conclusions**

This paper has outlined the design, implementation, and preliminary testing of the pilot course entitled *Telling Story: Voice in Photography*. The answers to our initial questions – *What are the strengths and weaknesses of this medium for visual art critical studies courses? Are hyper-textual online learning communities a viable medium for visual art critical studies courses?* – have been explored through this descriptive formative evaluation process. As stated at the beginning of this paper, the evaluation process for this pilot course is ongoing.

Overall, the results of the evaluation process have been positive. The evaluation process appears to be influenced by a techno-utopian discourse, however. As such, further attempts to study this course need to be examined in more depth using multiple methodologies.

## **Implications for Curriculum**

The results from this evaluation have implications for visual art curricula. First, educators need to be aware of the dialogue of techno-utopia. Technology can be a useful vehicle in helping students gain control over their own learning, but curriculum needs to be student-driven, not technology-driven. There can be a multitude of ways to incorporate technology, on all points of the spectrum, if we have the courage to look past the utopian discourse to make informed decisions about what technology can and cannot offer.

Second, tools for online learning need to become transparent, almost invisible means to learning rather than ends in themselves. Upcoming generations of students are urged to be increasingly techno-literate (Tapscott, 2004), and educators do need to consider how curricula will grow and adapt to meet the needs of this upcoming generation.

Third, if knowledge from each of the four areas of aesthetics, art criticism, art history, and art production are valued in visual art education (Darts, 2004; Duncum, 1999, 2001, 2002; Freedman, 1997, 2002, 2003; Garoian and Gaudelius, 2004; Stuhr, 2003; Tavin, 2000, 2002,

2003), online curricula needs to be developed that reflect contents from each that facilitates the building of knowledge in a constructivist format. With the usual focus of online learning communities on the dialogic nature of learning, coupled with the challenging nature of hands-on skill development in virtual spaces, a balanced curriculum can be difficult to develop in online learning communities. De Cosson (2002) writes; “[visual] art learning is an embodied practice learned through praxis” (where praxis knowledge is the in-between theory and practice). If visual art learning is ultimately a bodily performance, is it possible to fully teach visual art courses through online learning communities? Is there space for embodied knowing?

## Summary

Interactive computer technologies have the ability to provide the space, website and tools for encouraging students to engage in an active and growing learning environment. Through this change and growth can emerge a new way of knowing that becomes a part of those involved, which could engage them in further learning. Educators, however, need to tread into these waters carefully, being aware of the multiple ways that technology can be incorporated into art education, while avoiding the pitfalls of the language of techno-utopia. Although the use of hypertext in online learning communities has the potential to facilitate new ways of knowing, more research needs to be done on the lived experience of participating in an online learning environment in visual art education.

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## ***Stealing the Goose: Copyright and learning***

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### **Abstract**

The Internet is the world's largest knowledge common and the information source of first resort. Much of this information is open and freely available. However, there are organizations and companies today that are trying to close off the Internet commons and make it proprietary. These are the “copyright controllers.” The preservation of the commons and expanding access to digital content and applications are very important for distance educators. The educational exemptions for “fair use” in the United States and “fair dealing” in the Commonwealth countries are integral to any understanding of copyright, which was instituted for the dissemination of knowledge, and not, as is commonly believed, to protect the rights of the copyright owners. Copyright law was expressly introduced to limit their rights. Yet, these controllers are successfully turning a “copy” right into a property right. The traditional rights of learning institutions are being taken away. The balance for researchers should be restored. Research and learning must be allowed the broad interpretation that was intended in the original laws.

**Keywords:** copyright; intellectual property; infringement; Internet; stealing; balance

### **Introduction**

*They hang the man and flog the woman  
Who steals the goose from off the  
common  
But leave the greater villain loose  
Who steals the common from off the  
goose.*

Anonymous 1764 or 1821

The Internet is the world's largest knowledge common and the information source of first resort according to Lyman and Varian (2003), who estimated that the available World Wide Web contained more than 167 terabytes ( $167 \times 10^{12}$  bytes) of data organized into information of various sorts. Much of this information is open and freely available to any and all Internet users. However, like the landlords of old who fenced in the commons and drove out the “croppers,” there are organizations and companies today that are trying to close off the Internet commons and make it proprietary. These organizations and companies are prosecuting individuals who are making use of the commons, while they themselves are free to take away the knowledge from the commons and make it unavailable.

The preservation of the commons and expanding access to digital content and applications, are very important for distance educators in particular. Access to this vast store of information forms a basis on which a wide variety of learning experiences can be built, both formal and informal. It

is about universality, making learning available to anyone anywhere at anytime. The increasing availability of computers with online access is making the Internet commons integral to formal learning environments both on and off campus.

Created works form a priceless, shared heritage on which all knowledge is based. All learning is based on the accomplishments of the past. Recognizing that new ideas are seldom original and never appear first in their completed form, Isaac Newton in his letter to Hook, February 5, 1676 wrote: "If I have seen further, it is by standing on ye shoulders of Giants." Newton, as did other scientists of his generation, had full and open access to the works of others and thus he was able to build on this knowledge to "discover" his Laws of Motion. Mark Twain, commenting on the works of novelists was less gracious in his description: "We are all thieves" (Paine, 1917, p. 732).

Today, organizations of so-called "intellectual property" (IP) owners, and vendors of music, videos, and books, and other forms of codified information are closing off the commons. In this essay, I shall use the term "copyright controllers" to refer to both the owners and vendors, including the "big players" such as Disney, Bertelsmann, and Time/Warner/AOL and their organizations that together control much of the world's content (Barlow, 2002). They want to control "in infinite detail all use and duplication of material, and to monitor that use, and possibly charge for it on a transactional basis if they don't block it out of hand" (Lynch, 2001, p. 29).

Much of this assault on the commons is being led by the United States (U.S.), which is leading the world rush to protect IP. It is doing so by forcing other countries to toe their line. Australia was forced to accept the U. S. approach to IP protection in their free trade agreement with the U. S., reinforcing "Australia's reputation as one of the world's leading countries in protecting and enforcing intellectual property rights" (Australian Government Department of Foreign Affairs and Trade, 2004). The Australian journalist, Gittins (2004) warns about this U.S. push for "harmonisation" forcing other countries to copy U.S. laws, and then "act as policemen in prosecuting citizens who pirate American IP, enhancing the ability of U.S. companies to protect their rights in other countries' courts." Even the Iraqi government has already been forced to toe the U.S. line on IP where defending IP rights is "a high priority" (U.S. Department of Commerce, 2004). The U.S. has placed 49 countries on its "priority watch list," and designated some of them for "Section 306" in which the U.S. can move directly to the application of trade sanctions, whenever a country is not adequately enforcing IP rights (U.S. Department of State, 2004). It is because of this worldwide assault by the copyright controllers that much of this paper is of necessity concerned with the copyright developments in the U.S. that are affecting all countries.

Enclosure of the Internet commons has been led by AOL, which has created one of the largest walled gardens. Otherwise known as "walled prisons" or "captive portals, they are websites or collections of closed websites that manages users' access to the content, directing them to specific content and/ or preventing them from accessing selected material. Walled gardens are often found on websites aimed at children to prevent them from accessing inappropriate content. Companies use them to direct surfers to specific sites for sales purposes or simply to keep them away from competitors, while offering them the illusion of online choice. America Online (AOL) is considered to be one of the most successful walled gardens. More than 85 per cent of AOL users never leave the walled garden and visit other areas of the Internet (SearchSecurity.com, 2004). Examples of other companies attempting to close off the commons include: *Universal Studios* fighting movie websites that want to link to film trailers on *Universal's* site (Cisneros, 1999); and *Ticketmaster's* attempts to stop *Sidewalk* from bringing potential ticket-buyers to the *Ticketmaster* page that sold tickets to the events announced on the *Sidewalk* website (Macavinta, 1997).

Jesdanun (2001) reminds us that if the WWW creators had not wanted us to link they would have called it the “World Wide Straight Line.” In a Danish court case, she argued that linking is a fundamental element of the Web, strengthening the commons. Oram (2001) argues that the copyright controllers are trying to force digital data to behave like objects in order “to bring the inconvenience of the physical world to the Internet” (p. 34).

The controllers argue against the commons referring to Hardin's (1968) “Tragedy of the commons” thesis, in which he postulates that a commons cannot last because, individuals acting in their own interest will exploit all the available resources. However, Hardin's thesis rests on “a world that is limited.” Bandwidth and storage space available on the Internet is growing exponentially and there is little possibility of it ever becoming “limited.” In addition, Hardin's theory is not entirely supported by history. Examples of commons and open ranges have survived in many parts of the world including the UK (English Nature, 2004), the U.S. (Davis, 2004), and other countries (Indiana University, 2004), and there is no sign of their imminent collapse.

## What is Copyright?

The most serious threat to the Internet commons (and to those like distance educators who use it) is the assault on copyright. This attack comes from the copyright controllers. They are taking a concept that was originally intended to establish a balance promoting the spread of knowledge by providing advantages to both creators and consumers. The Owners are now attempting to reshape it into what Surowiecki (2002) calls “property-rights fundamentalism” – copyright as a mechanism for the protection of “property.” By calling their intellectual creations “property,” the copyright controllers have to “plant in the public mind the idea that cultural products (movies, recorded music, books) are ‘property’ in the same sense that your house and its contents constitute property” (Naughton, 2003). Bollier (2003) claims that the controllers are campaigning to “morph copyright into a content protection system” (p. 121).

Unfortunately, for the proponents of IP, historically, copyright did not emerge as a property right. Copyright was explicitly instituted to “encourage learning” in Great Britain (House of Commons, 1709) and developed from this concept to “promote the progress of science and the useful arts” in the U.S. Constitution U.S. Constitutional Convention, 1787). ***Copyright was not enacted for the purpose of protecting the rights of the author.*** Such an interpretation has been identified by Jaszi (2001) as the recasting of copyright as “para-copyright” or “pseudo-copyright.” Barlow (1996) argues that old laws like copyright cannot be made to work by “grotesque expansion or by force” (p. 10). In much of Europe, countries use the Napoleonic code and base their copyright laws on “*le droit d'auteur*” (author's right), but this is alien to the British common law tradition on which Commonwealth and U.S. laws are based.

Copyright in the common law is based on the premise that no one owns ideas and that creative works belong to everyone. Copyright protects only the expression of ideas and not the ideas themselves. Copyright holders possess a simple “copy” right that gives them an exclusive right to exclude others and otherwise control the expression of their ideas for a limited time. The creators or their assignees possess the “copy” right for a limited time. This was originally 17 years and has been extended since then. Bloom (2002) complained that whoever turned “copy right” into one word had to be a lawyer. We don't say “freespeechright” or “gunright” or “assemblyright” or “religionright.”

This limited copy right was never intended to be a property right. Bell (2002) writes that the copyright owners have “co-opted the rhetoric of property” (p. 8). The term “intellectual property”

was seldom used prior to its popularization following the establishment of the World Intellectual Property Organization (WIPO) by the United Nations in 1968 (United Nations, n.d.). Since then, owners of copyright on creative works have conducted a constant campaign with some significant success to transform copyright into a property right. They are extending the property label for intangible things like texts, songs, movies, and plays, as far as possible attempting to establish the view that any unauthorized use is stealing. Vaidhyathan (2001), resting his argument on the U.S. Constitution, however, suggests that the term “intellectual policy” would be more appropriate, which considers copyright to be an incentive to create and distribute new works and not a restrictive property right. He argues that copyright is an incentive and nothing more.

Significantly, although the copyright controllers are vigorously pursuing the conversion of copyright into a property right, they are at the same time taking measures to limit the property rights of consumers through restrictive licensing. According to Katyal (2004) these restrictions relieve the buyer of the right to consume property, to use it harmlessly, to transfer property to another person and exclude anyone from entering, infringing, or interfering with their use and enjoyment of it. She notes that copyright controllers are trespassing on the privacy of consumers by spying on them using “extrajudicial surveillance” techniques. She further argues that “we have created a world in which the property rights of copyright owners are valued over the liberty, property, and privacy rights of others.” The content companies are clear “about their intentions to charge for every bit of data, stamp out the used CD market, and crush libraries by extinguishing ‘fair use’” (Vaidhyathan, 2001, p. 182).

“Fair use” in the U.S. and “fair dealing” in the Commonwealth countries are the traditional exemptions to copyright allowed to the public and specifically to educational institutions for research and other uses such as parody, or quoting. If a use is fair, then the users do not need any permission to exploit the copyrighted materials. A significant difference is the limitation to research and private study in the fair dealing countries, whereas fair use in the U.S. also includes teaching.

Now, when a consumer buys software, music, videos, and e-books, they must accept licenses that restrict their traditional rights. They no longer have the right to fair use. They may be restricted to loading their software only once on one machine, they may not share e-books with their friends, and they are subject to online surveillance by the copyright controllers (or even by vendors of other products that they have not purchased).

The copyright owners argue that property rights and restrictive licenses are essential for their survival, and that they are an economic necessity. Yet, as Bollier (2003) points out, there are many profitable industries that are thriving without any copyright or patent protection. These include perfumes, recipes, clothes designs, furniture, car bodies, and monuments. The rock band *The Grateful Dead*, regularly grossed more than U.S. \$50 million per year without relying on copyright (Wilder, 2000). The successor group, *The Dead*, is continuing this open tradition. In fact, they positively encourage their fans to tape their concerts and share the tapes around, even providing a special area at concerts for recorders. This business model of public access is championed by one of their former lyricists, John Perry Barlow, who is a co-founder of the Electronic Frontier Foundation, which is actively opposing the enclosure of the Internet commons (Barlow, 1994).

## History

Ancient scribes (the earliest copiers) in writing the classics and sacred books of different religions were quite comfortable in excluding, substituting, amending, expanding, and abridging their materials. In the fourth century BC, Aristotle wrote: “Imitation is natural to man from childhood [and] the first things that he learns come to him through imitation” (Aristotle, 2004). The ancients had no proscriptions against copying or even plagiarism. Our ancestors' understanding of the world was housed in stories – not dogma. Story tellers had no “moral” right to protect their tales. No one questioned the right of anyone to copy these and other works. “The concept of copyright was utterly foreign to the ancient mind” (Harpur, 2004, p. 141).

[In many non-western traditions, although copying was also common, in many cases copying rights for stories and symbols were restricted to particular tribes, clans, or persons (Industry Canada, 2004b; McDonald, 1997). This paper does not address the rather special circumstances surrounding IP issues of aboriginal communities. Educators in developing countries might compare their situations with that of the U.S. when it was a developing country (See Khan, 2004)]

In Ireland in the sixth century there occurred the earliest known judgment on copyright. An Irish monk, Columcille, copied without permission St. Jerome's psalter, a hymn book belonging to St. Finnian, the abbot of another monastery. Finnian asked Columcille to return the copy and was refused. Finnian appealed to the High King of Ireland, King Diarmait, who pronounced the judgement in Finnian's favour: “To every cow its calf to every book its copy.” Columcille responded to this adverse judgement with force and met the king's men in battle at Cuilcubren in 561. Columcille was triumphant and King Diarmait was exiled from Ireland, but as a result more than 3 000 men lay dead (Thomas, 2004). Columcille was later also exiled to Scotland, where he is known as St. Columba (Concannon, 2004). It could be said that although he lost the court case, with the battle, he won his point. This battle resolved the copyright issue in favour of openness for more than a millennium. The Irish monks continued copying books, spread out from Scotland, and brought the enlightenment to Europe (Cahill, 1995).

The printing press, with its capacity to mass produce copies, came to Europe in the 15th century. There were few presses and many authors, so the printers gained control over the books that were produced, usually by paying authors a one-time fee. Monarchs found it easier to tax and control the few printers than tax all the authors, so they granted them monopolistic rights in return for taxes and censorship. The Stationers Company, which was made up of members of a printing guild, was granted a printing monopoly in 1557 in order to prevent the spread of Protestant writing in England (Editors, 2004). During the Cromwellian period, the print monopolies were strengthened although the censorship was then directed against opponents of Puritanism.

It is during this period that copying without referencing the author became socially unacceptable. Ben Johnson was one of the first authors to use the term “plagiary” in English with its current meaning. The Oxford English Dictionary provides an earlier reference from Montagu in 1621, who used the word “*plagiarisme*” in the sense of purloining someone's work (Oxford University Press, n.d.). Howard (1988) argues, therefore, that plagiarism is a historical construction rather than a moral category. Downes (2003a) acknowledges that plagiarism, while being mendacious, is not theft. Rather it is “a breach of trust between the plagiarizer and the reader . . . a misrepresentation of one's self as something one is not.”

Our modern concept of copyright in British common law has developed from the Statute of Queen Anne 1710 *An Act for the Encouragement of Learning*. It was passed for the purpose of promoting learning, specifically to encourage “learned men to compose and write useful books” (House of Commons, 1709). Up until then, the publishers could pass on their royal grants of copyright to their heirs in perpetuity. This Act was a consequence of the 1707 Act of Union with Scotland to form the United Kingdom of Great Britain. Scottish booksellers would not accept the English monopoly of the London Stationers' Company. This first copyright law had the purpose of breaking the Stationers' monopoly and so, it was not a mechanism for protecting copyright controller's rights as it is often portrayed nowadays. ***Copyright law was expressly introduced to limit their rights.***

In the Statute of Queen Anne, copyright was wrested from the printers and vested in the authors. This right was limited to a maximum of 28 years, after which works entered the public domain. So in effect, this statute created the public domain – the intellectual commons. This is the most important aspect of this law for the public and for education. It created a body of works that could be copied, altered, adapted, or tweaked by anyone for amusement, profit, or enlightenment. In addition, Article IX gave a special exemption to universities to ensure that none of their traditional copying rights were affected. This was no coincidence, intellectuals like John Locke actively campaigned for the repeal of the monopoly in the book trade and strongly condemned the restrictions on science caused by the monopolies of the Stationers Company (Locke, 1692).

Forté (2000) explains: “Copyright isn't on a par with the right to life, liberty, fraternity and equality before the law. It's a privilege extended to us by our fellow citizens because they recognise the value they get out of our efforts.” Copyright was never intended to be primarily a vehicle for protecting the rights of the copyright holders. On the contrary, copyright was initiated specifically to promote learning by removing the perpetual rights of the copyright controllers transferring the rights to the authors and imposing a reasonable time limit on their privilege.

Most of the colonies that formed the United States had laws that were based on the Statute of Queen Anne (Shirata, 1992). So it is not co-incidental that the U.S. Constitution echoes this purpose. It specifically refers to Congress's duty in Article I Section 8:

To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries (U.S. Constitutional Convention, 1787).

This was followed by the *Copyright Act 1790: An Act for the Encouragement of Learning* and it was signed by George Washington (Washington, 1790). Like the Statute of Queen Anne, this act (as the title suggests) was enacted specifically for the “encouragement of learning” and is meant to protect the rights of copyright holders only insofar as it serves that purpose.

Thomas Jefferson (1813) expressly opposed linking copy rights to property rights, writing “Inventions then cannot, in nature, be a subject of property.” President Madison wrote that “incentive, **not property**, or natural law is the foundational justification for American copyright” (as cited in Vaidyanathan, 2001, p. 43). So, there is no common law support for IP. It is a privileged monopoly, not a right. Since these laws were first enacted, the copyright controllers have waged a continuous war aiming to extend their rights at the expense of education and the general public.

## Infringement – Not Stealing

Copyright controllers distort the meaning of the words “stealing” and “theft” for their own purposes. Naughton (2003) contends that the use of such language “would make an excellent Orwellian case study.” “Stealing” and “theft” have emotive value because they are considered to be evil acts by most people. They are proscribed activities in the Judaeo-Christian Ten Commandments, and in the sacred books of other religions. The copyright controllers use these words to strengthen their case for extending the meaning of copyright.

According to the Oxford English dictionary, however, “to steal” is defined as: “To take **away** dishonestly (portable property, cattle, etc., belonging to another) (Oxford University Press, 1989). As copying takes nothing away from anyone (the owners still possess their copy) and as intellectual content is not property, then copying content is not stealing. In the U.S., this interpretation was strengthened by a Supreme Court decision that:

infringement is not theft [as the infringer] did not assume physical control over the copyright nor wholly deprive its owner of its use . . . infringement does not easily equate with theft, conversion, or fraud. . . The Copyright Act employs a separate term to define one who misappropriates: *infringer* (Dowling v. United States, 1985).

Given these facts, it is incorrect, and perhaps even dishonest, for the copyright controllers to use the term “stealing” in reference to copying materials. Nothing is taken “away” from anyone. The owner still has it. Jefferson (1813) put it this way: “He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.” When you copy without damaging or use someone's creative work and take ideas or impressions or methodologies or whatever from a creative work, or simply take enjoyment from it, you are NOT stealing, not from any religious, ethical, or legal point of view.

The so-called owners possess the *copy* right for the creation, not a property right. As Madison noted (see above) copyright is specifically not a property right. Stealing and theft as confirmed by both the Oxford and Merriam Webster (Merriam-Webster, 2004) dictionaries involves the taking of “property” belonging to another. Since, there is no property, it cannot be stealing.

The problem for copyright controllers is that they cannot find religious texts condemning “infringement” and so it is difficult for them to get public support using this legalistic terminology. The ancient religious writers, as we mentioned previously, were quite adept at copying and adapting the works of others and would doubtless have not found copying to be immoral. Without extensive copying in a manner that might today be considered to be infringement or even plagiarism, there would be no religious texts, nor classical literature. It is difficult for the copyright controllers to build a moral case against copying when the ancients actively encouraged it.

Rev. Frame (2002) notes that if it were a moral issue, then copyrights should never expire. “If it is morally wrong to copy a piece of music in June of 1989, it is also morally wrong to copy that same piece of music in June of 1991. (Moral principles, by their very nature, are eternal, as God is eternal).” As all human progress is based on copying, any society that adopted and followed this as a moral principle would not have progressed and would have stagnated. All human knowledge is based on copying. Can you imagine how well a prehistoric tribe would have survived if it had felt that copying spears or bows and arrows used by other tribes, was immoral? We have such a situation today where poverty-stricken countries are not permitted to copy the

content and software applications created by the rich countries. They are being told that it is “stealing” if they deign to copy software, scholarly articles, and texts that might educate their people.

## **Assault on Copyright**

So, infringement is not stealing, but that has not stopped the big companies from mounting an outright assault on the copy rights of consumers. Nadin (1997) noted that governments are quick to give up ideals like human rights, but they “raise a big fuss when it comes to copyright infringement” (p.36). As previously mentioned, the content companies are so powerful that IP laws asserting their interests were among the very first passed by the new Iraqi government (Associated Press, 2004).

More than 40 bills re-inforcing the IP interpretation of copyright have been introduced in the U.S. Congress since 1997 (Chartrand, 2000; Billboard.biz, 2004). These bills makes it a crime to share copies of copyrighted products even with family (No Electronic Theft (NET) Act, 1997) and makes it illegal (and even criminal) to circumvent protection mechanisms on software (Digital Millennium Copyright Act, 1998).

The European Union is getting on the quasi copyright bandwagon too with its Directive for the Enforcement of Intellectual Property Rights. It has been called the “nuclear weapon of IP law enforcement.” Now copyright controllers have the right to raid homes of suspected infringers (European Union, 2003; Rupley, 2004).

The Sony Bono Copyright Term Extension Act (1998) is perhaps the most insidious act for educators, preventing hundreds of thousands of creative works published between 1923 and 1943 from entering the public domain. This could be considered to be “stealing” from the public. This act was introduced by the pop singer/ congressman, Sonny Bono, and strongly supported by Disney to prevent its content from entering the public domain. Some people call it the “Mickey Mouse” Preservation Act (Black, 2002; Levy, 2002) because every time Mickey is due to enter the public domain, the copyright is extended. There is no guarantee that there will not be a further extension of the Act after this 20 year period has ended. It could last “forever less a day” (U.S. Congress, 1998).

Jaszi (2001) emphasizes that the real concern is not about Mickey Mouse entering the public domain, but all the other content such as classical music, little-known films, etc. that get incidentally restricted in order to protect a few valuable, perennial works. This is the real threat facing the content industry not content piracy (Downes, 2003b). Vaknin (2004) estimates that there are more than one million books published between 1924 and 1964 in the USA that should be in the public domain. For an online listing of many of the high quality works that are being prevented from entering the public domain (see Karjala, 2003). Duke Law professor James Boyle claims these copyright extensions have “locked up all of 20th century culture . . . . to save maybe five percent” (cited in Morgan, 2003). This creates major difficulties for researchers, creators, instructors, and the general public, who wish to avail themselves of this material.

As if the Sonny Bono Act were not enough, the big content and software industries joined forces to support the introduction and successful passage of the Digital Millennium Copyright Act (DMCA). This Act makes it illegal (and even criminal) to circumvent protection mechanisms on software. This includes even the sharing of information on how to circumvent protection (Digital Millennium Copyright Act, 1998). Copyright controllers are determined to assert and extend their

control. Librarians claim that the DMCA will have serious long term negative effects on research. Bricklin (2002) claims that copy protection could “break the chain necessary to preserve creative works.” He argues that because of the DMCA “To create a ‘Rosetta Stone’ of today’s new formats will be asking to go to jail and having your work banned.” Copy-protected content and applications are less likely to survive for posterity.

Lynch (2001) believes that these legal changes represent a massive change in the balance of control over content. Along with other attempts at control by the big copyright controllers, it has caused enormous difficulties for the development of electronic texts or e-books. Many of the advanced features of e-books have been removed in order to prevent copying. These regressive measures include technical features that limit the downloading of content to the proprietor’s site, and suppressing the copy and paste feature, as well as charging excessive prices making e-book purchases less attractive than paper copies. Other controls include publishers withdrawing legitimately purchased subscriptions without notifying the subscribers. Some software licenses limit usage to personal business only, prohibiting any formal educational application. Others prohibit personal use and limit usage to business only. Other licenses restrict use to teaching and learning contexts only. The controllers will want to know who is doing what with their applications.

### **Who's Stealing from Whom?**

It could be argued that preventing this fount of knowledge from entering the public domain is “taking away” or “stealing” the commons from the goose. Reverend J. Frame wrote “to penalize consumers in order to give special benefit to an industry might well come under the Biblical definition of theft” (Frame, 2002).

Moreover, how much have the copyright controllers really lost in sales from the downloading of text, software, music and video files? Business software companies alone claim that they have lost more than U.S. \$29 billion according to the Business Software Alliance (International Data Corporation, 2004). Kapica (2002) refers to a Forrester Research investigation of the music industry that shows that swapping music MP3s is “not the cause of music industry woes” – the 15 per cent drop in music sales can be traced to recession and competition from DVDs and video games. Music companies and their retailers were fined more than U.S. \$143 million in 2002, after being found guilty of price-fixing CDs (Reporter, 2002). Liebowitz (2004) suggests that illicit copying might actually benefit copyright owners.

Self (2004) provides an economic analysis showing that the figures used by the copyright controllers on the billions of dollars lost are manufactured and highly suspect. He questions their methodologies, which in any case they seldom provide. There is also a strong argument that pirating has bolstered the profits of many companies. For example, MS DOS became an accepted standard because it was copied by everyone with a personal computer. This helped to establish Microsoft as the leading software company (Anonymous Coward, 2004). Self (2004) wonders if Microsoft would really prefer a million installed copies of Linux rather than a million installed pirate copies of Windows.

On the other hand, how much extra money have copyright controllers made from consumers paying full price for music and movies they had already paid full price for only a few years before? I myself, being long in the tooth, have legally purchased the same songs in vinyl 45, LP, 8-track, audio cassette, and CD formats. And, I have recently downloaded some of them in digital format without paying. This is legal in Canada (Department of Justice, 1985). Card (2003) wrote:

“Strip away all the pretension, and what you really have is this: Rapacious companies that have become bloated on windfall profits and ruthless exploitation of other people's talents are now terrified that the gravy train will go away.”

Other words that copyright controllers use along with “steal” to bolster their argument for pseudo-copyright are “artist” and “author.” Whenever they campaign for protecting copyright, it is always for the benefit of the “artist” or “author” and not themselves. These words summon up images of highly respected figures like DaVinci, Michelangelo, Shakespeare, and Mark Twain; whereas, the word “vendor” is not held in as high regard. People tend to have much more sympathy for artists and authors than vendors. The big companies hold themselves up as the defenders of their artists' and authors' rights. The truth is that for most software, books, audio and video content, the lion's share of the profits go to the big companies and not to the artists and authors.

Card (2003) argues that the big content companies' protestations that they are protecting the rights of their artists are a sham. They have been manipulating copyright laws for years, stealing everything they could from the authors and artists who created the content. Movie studios use “creative accounting” to minimize their profits, thus avoiding taxes and depriving the creators of their proper percentage. He refers to these companies as profiteers and bloodsuckers.

Barlow (2002) estimates that nearly 90 per cent of musicians with major label contracts cannot pay up the money advanced to them. The young artists want to be heard so much that they are willing to sell their souls to the big record companies. Albini (1998) gives an informative account of how record companies rip off rock band artists. Avalon (2003) reported that the major recording companies were caught stealing US \$100 million a year from their artists and were severely chastised for doing so by a U.S. federal court judge.

In another action, authors had to file suit with the U.S. Supreme Court to assert their rights to proceeds from the subsequent sales of their works to database services ( *New York Times Co. Inc. et al v. Tasini et al. certiori*, 2001). More recently, record companies, who normally pay artists from 6 to 8 cents per song, are refusing to pay artists anything more for their “double session” CDs that release the songs in multiple formats. This dispute is being negotiated (Borland, 2004).

A rather contemptible example of the usurpation of an artists' right by the big companies is that of Disney and other recording companies who took over the rights to the hit song “The Lion Sleeps Tonight” otherwise known as “Whinawei” or originally “Mbuba.” The original South African song writer, Solomon Linda, died a pauper, although the estimated value of his song is U.S. \$15 million (3rd Ear Music, n.d.; Isa, 2004). Who's stealing from whom?

Content companies crying about the loss of their profits to digital pirates should examine their own history. They tried to stop radio from playing their songs, not realizing that it would be the biggest promoter for record sales. Movie companies attempted to limit the showing of movies on television and TV. Yet, it became a huge aftermarket for their used products extending their life. Card (2003) noted that although B movies and newsreels suffered, the aftermarket for the top hits became very lucrative. The video cassette recorder (VCR) terrified studios and TV executives. At the time of its introduction, Jack Valenti (1983), head of the Motion Picture Association of America commented “the VCR is to the American film producer and the American public as the Boston strangler is to the woman home alone.” Yet, the VCR has proved immensely profitable, once the copyright controllers came to terms with rentals and reduced their pricing to sustainable

levels. Now with DVDs, the aftermarket is often more profitable than the original cinema showing. The only movie theatres to (almost) disappear because of the new technologies are the pornography theatres. And the controllers never learn. To protect their copyright, the Recording Industry Association of America (RIAA) is now pushing for onerous restrictions to limit the capabilities of digital radio (Reuters, 2004).

Ludlow (1996) makes a useful distinction between software pirates and bootleggers. Software pirates make copies for their own use or for distribution among their friends. Through their distribution of software, they actually contribute to the development of the software industry. Software bootleggers, on the other hand, make copies of software for profit, often copying on a large scale. Ludlow argues that pirates are not crooks, hurt no one, and in fact contribute to the software industry. "Most pirates," he argues, "consider bootleggers to be lower life forms than child molesters" (p. 109). In support of this distinction, Litman (2002, p. 132) argues that in the digital world, copying is "an unavoidable incident of reading, listening to, learning from, sharing, improving, and reusing" content and should no longer be considered an appropriate measure of infringement. He contends that the use of the content is a better measure, whether the copying is commercial or non-commercial. Infringement, he maintains, should be related to large-scale interference with or the ability to hinder commercialization (p. 135).

The content companies want full property rights, but they do not want to give traditional property rights to consumers preferring to restrict consumers' traditional rights through different forms of contracts and licensing that restrict the consumer and grant the controllers more flexibility (Adler, 2001). They gain new revenue opportunities and new capabilities for tracking and controlling the post-sale use of their content as well as new business models such as transaction use, based on their ability to impose and enforce rules. Their rules include pay-per-view and limited-time subscriptions providing them with ongoing revenue streams.

One of the most important of the traditional consumer rights is the right of first sale, which is the right of someone, who buys a book or CD to resell it or give it to someone else. Another right is to use their purchase of content in a fair way. These rights are not "extras" but are integral to the copyright and property systems. An irate Rothman (2004) complained: "I'm not talking machine-guns and Molotov cocktails, just an uppity assertion of Americans' rights to own books, not merely rent them or otherwise be at the mercy of control-fixated publishers and software companies." Many software buyers are under the illusion that they own what they buy. Not any more. All they own is the CD, the box and the installation instructions.

It is not clear that the sharing of content is illegal or even against the spirit of copyright law, which provides exemptions and recognizes first sale and fair use rights. Young people have been sharing comic books, games, and music with friends for generations. This is not new. Now that it is much easier to exchange in a digital environment, the copyright controllers are trying to restrict it and appropriate consumers' traditional rights. For an ominous story about our future, if the controllers continue see Stallman (1997).

The assault on copyright puts a damper on research activities as Princeton University professor Edward Felten discovered. He had to sue for the right to present a scholarly paper describing the process for breaking a copyright-protection technology. The RIAA backed down, but the entire process was threatening and time consuming, serving as a deterrent to other researchers, with similar interests (Craver, McGregor, Wu, Liu, Stubblefield, Swartzlander, et al., 2001).

## “Contributory” or “Vicarious” Infringement

In addition to their prosecutions, the owners have also developed the concept of “contributory” or “vicarious” infringement” as a way of downloading the responsibility of enforcing copyright to Internet Service Providers (ISPs), TelCos (RIAA, 2003), universities (Carlson, 2003a; Sherwin, 2003), and others (Jardin, 2004). Zittrain (2002) refers to this as the compulsory “deputizing” of network providers as content police. This is yet another example of the owners demanding the rights of property owners, without taking on the responsibilities. If you own land, it is your responsibility to fence it and keep out trespassers. If someone trespasses on (infringes) another person's land, then it is up to the landowner – not others or the civil authorities – to be responsible for the law's enforcement. A civil case is required.

In the same vein, ISPs are not responsible for the indiscretions of their users. They are simply common carriers, acting as conduits for messages. In a Philadelphia court challenge, the judge noted that material on the Internet has to be deliberately sought out by the viewer, stating “there is immense legal significance to those few clicks” (Cairncross, 1997, p.191). This makes the perpetrators of the misdeed responsible, not the ISPs.

The Technology Education and Copyright Harmonization Act (TEACH Act, 2002) and the recently introduced Protecting Intellectual Rights Against Theft and Expropriation Act (PIRATE Act, 2004) both transfer the responsibility for copyright enforcement from the owners to institutions and the civil authorities respectively. The TEACH Act re-grants rights that universities and other educational institutions have always traditionally held. In order to benefit from the provisions of this Act, and enjoy the rights of fair use that they have always had, educational institutions must ensure that they implement a comprehensive copyright policy. They must then take responsibility for educating faculty and students on the copyright controllers' interpretation of copyright and apply special technological restrictions limiting access to copyrighted works. More burdensome for institutions, they must also take on the responsibility of enforcing the copyright interests of the copyright controllers (Craver et al., 2001). The PIRATE Act will benefit the content owners immensely, transferring the costs of enforcing copyright from them to the taxpayers. Jardin (2004) reports that the bills' sponsors, Senators Leahy and Hatch, are both recipients of major funding from the entertainment industry.

Gregory A. Jackson, Chief Information Officer at the University of Chicago commented: “Fundamentally, these shouldn't be higher-education issues. I'm worried that we are heading down a path that will wildly complicate our lives, all to preserve something that is essentially archaic – the record companies' existing business model of selling CD's and tapes.” (Carlson, 2003b). If the entertainment industry has a problem with their copyright, they should handle it themselves and not transfer the responsibility of enforcement onto public institutions and the taxpayers.

These enforcement activities include extrajudicial methods of surveillance that secretly detect, deter, and control acts of consumer infringement. Thus they represent a significant invasion of privacy. Universities are now expected (although not yet obliged by law) to participate with copyright controllers in the surveillance of faculty and students, becoming police and judges and adversely affecting traditional academic freedoms.

As previously mentioned, the European Union with its Directive for the Enforcement of Intellectual Property Rights, combined with injunctions goes far beyond the DMCA. It includes

patents and it includes all minor, unintentional, and non-commercial infringements of IP (European Union, 2003).

## Restoring the Balance

People like John Perry Barlow of the Electronic Frontier Foundation and Lawrence Lessig are actively campaigning to stop the assault of the big content companies, fighting to restore the balance for the public and educators that was envisioned in the original copyright laws. Lessig took the fight against the Sonny Bono Term Extension Act to the U.S. Supreme Court, but was not successful in his arguments over the meaning of a “limited time” – apparently it can mean “forever less a day” (Levy, 2002). Even Alan Greenspan of the Federal Reserve Bank has called for a restoration of balance (Greenspan, 2004). Horn, Maxwell, and Crawford (2004) refer to a “substantial disconnect between public attitudes toward copyright and the letter of the law” and they too call for a restoration of the balance encouraging, not discouraging innovation. Balance is essential. U.S. County Court Judge Alex Kozinski wrote: “Overprotecting intellectual property is as harmful as under protecting it . . . it stifles the very creative forces it's supposed to nurture” (Morgan, 2003).

Among these “balancing” initiatives is the Public Domain Enhancement Act (2003), which has been introduced into the U.S. Congress. This act proposes to add a nominal fee of U.S. \$1.00 after 50 years for those who wish to renew copyright. This would have the effect of opening up the way for millions of abandoned works with no commercial value to enter the public domain, with the bonus of providing a database of those who register so that people looking for the copyright owners would be able to find them without undue difficulty. Another proposed bill attempting to restore the balance in copyright laws is the appropriately named Balance Act (2003), which represents an attempt to restore fair use rights that have been severely curtailed by the DMCA. The introduction into Congress of the Digital Media Consumers' Rights Act is a minimalist effort to at least ensure that the copyright controllers do not mislabel copy-protected music discs as an unfair method of competition or as a deceptive act or practice (2002).

In Canada, Micheal Geist has proposed that Canada take a unique position that maintains balance and upholds the rights of researchers (Geist, 2004). A Supreme Court decision has done much to restore the balance. Anyone can now make a copy for research without paying a license fee (Won, 2004). In this decision, Chief Justice McLachlin insisted that “fair dealing” was integral to the copyright law, and wrote: “Research must be given a large and liberal interpretation in order to ensure that user's rights are not unduly constrained, and is not limited to non-commercial and private contexts.” (Supreme Court of Canada, 2004; Makin, 2004). The Court has ruled that users' rights prevail in the area of research and that equipment owners are not liable for copyright infringement simply because they authorize the use of their equipment to someone who then violates copyright. The concept of “contributory infringement” does not exist in Canada.

Project Gutenberg (2003) is “the Internet's oldest producer of free electronic books (e-Books or e-Texts).” Hundreds of volunteers share the vision of creating digital books and making them freely accessible online. By September 15, 2004, there were more than 13,000 books available. Following in this direction, the Public Library of Science (PLoS), a non-profit organization of scientists and physicians, is launching a public campaign aimed at making the world's scientific and medical literature a public resource (Vanderzee, 2003).

U. S. Congressman Sabo, noting that more than U.S. \$50 billion dollars is invested by U.S. taxpayers each year in scientific and medical research, has introduced into Congress a bill, the

“Public Access to Science Act” or the “Sabo bill” that would make all research funded by the U.S. government exempt from copyright protection as are other federal documents (Suber, 2003). This bill enjoys wide support from researchers, including at least 25 American Nobel Prize winners (SPARC-OA Forum, 2004). A special committee of the British Parliament makes a similar recommendation in *Scientific Publications: Free for all?* (2004), and a European group of scientists is campaigning for similar results (Scientific Information Exchange, 2004).

In fact, many research documents are presently available online, but exist in a “walled garden” accessible to the privileged few who work for organizations that pay exorbitant fees to private companies. The taxpayers have paid for the creation of these documents and then must pay heavily again to access them. Trosow (2003) refers to this as a “double subsidy.”

The Open Knowledge Initiative is another well known open commons initiative (Open Knowledge Initiative, 2004). The Creative Commons license represents yet another attempt to restore balance. Compromise and moderation were once the driving forces of a copyright system that valued innovation and protection equally. Their principal goal is “to build a layer of reasonable, flexible copyright in the face of increasingly restrictive default rules” (Creative Commons, 2004). For this, they have released a set of model copyright licenses that are free of charge for public use.

The General Assembly of the World Intellectual Property Association (WIPO) has called on members for fundamental reform, rejecting the present protectionist orientation and returning to the original principals of encouraging learning and promoting development. Citing the “enormous differences in bargaining power”, the assembly calls for a return to a more balanced approach between consumers and creators of IP (WIPO, 2004).

## **Conclusion and Implications for Open and Distance Learning**

This paper argues for a restoration of the traditional balance between the rights of the creators, the rights of the users, and the special rights of educators, which were implicit in the original copyright acts. For links to contrary opinions to my own, interested researchers are advised to consult the links at the websites of these references: (Infoweblinks.com, n. d.; WritingWorld.com, 2004). Also, look at the statutes referred to in the paper. They are available in the references list below or from Billboard.biz (2004) and Chartrand (2000). Also consult the websites of the copyright offices of most universities, where inexplicably, they seem to quite zealously guard the viewpoint of the controllers. See also Bulte (2004), Casey, (2004) and Lipinski (2003).

Distance educators must better understand the origins of copyright law as it was originally intended, and defend it as a vehicle for the promotion of learning, and not as an act to protect authors. Copyright law created the public domain and restricted the control of the copyright owners to a limited time. As open learning becomes more and more digital, the para-copyright burdens being added to the original laws are subverting their intent, transforming them into a vehicle for protection only and undermining the rights of educational institutions and the public domain. Too many copyright offices in too many institutions view copyright as something to be “enforced” and “monitored” rather than as a mechanism for promoting the dissemination of knowledge as it was intended.

The burden placed on institutions delivering electronically because of the present imbalances in the copyright system is quite heavy. The disparate problems are known to content developers in many different institutions. Langlois, Heller, Edwards, Lyratzopoulos, and Sandars (2004) note

their difficulties in obtaining copyright permissions even from those who were perfectly willing to provide them at no charge. The first difficulty is actually tracing down who owns the copyright. Then, developers have to find the people and arrange for their signatures. They highlight the burden of additional staffing and paperwork generated by the permission process. They also refer to the resultant bias in material towards “readily available” electronic resources because of the lack of co-operation of some publishers. For example, distance education institutions have demonstrated this bias by deciding not to offer music courses (or limit them considerably) because of the costs and complexities involved in obtaining copyright clearances (Industry Canada, 2004a).

Librarians also complain about the problems associated with obtaining clearances for copyrighted works, and that doing so can be “virtually impossible.” They specifically point to the enormous difficulties in identifying copyright owners, so much as to discourage all but the most persistent. Licensing is, all too often, too expensive to be considered. The digital copyright is also not the same as the printed matter copyright. Just because a publisher owns the right to print books, does not mean that the author has surrendered his or her digital rights to that publisher. Libraries, even if they can identify the owner, often do not have the power to negotiate fair terms for digital use. They stress that more than anything else, it is the transaction costs associated with clearances and licensing requirements that are the most onerous (Lutzker, 1999). Nor is this always the fault of the creators. It has become nearly impossible for them to avoid the restrictions of the para-copyright laws even if they want to. It is not a simple task to open your work and make it available to all in the public domain (Ebbinghouse, 2002).

Another burden being placed on distance educators is that of “contributory” or “vicarious” infringement. Institutions of learning must now overlook the traditional educational freedoms and implement comprehensive copyright policies, taking on the responsibility for training staff, monitoring, and policing para-copyright as being defined by the content controllers. Now, educational institutions – not the owners – are being made responsible and liable for enforcement.

The principal problem for institutions searching for the copyright owners and participating in enforcement activities is that it takes resources away from the institution that should be used for education. Why should universities be so burdened, accepting the downloading of responsibility for enforcement from the copyright controllers? “Instead of permitting themselves to be drawn down the track of greater and greater surveillance, universities should stand up early and assert their rights to set their own educational priorities” (Electronic Frontier Foundation, n.d.).

Katyal (2004) writes that faculty and students will be inclined to opt for risk-averse behaviours when subjected to surveillance in order to forestall discomfiting inquiries by the copyright police. Already, there is a tendency for researchers to avoid references to proprietary content and avoid using language that might be considered to be under copyright protection. Some faculty even avoid linking to particular websites under fear of prosecution. Katyal (2004) notes: “The eventual result would be a gradual chilling of creative behavior; the constant, silent, assertion of surveillance for infringement might eventually deter you from speaking at all.” IP rights are quietly dominating the privacy and creative rights of citizens. Surveillance encourages the “over deterrence of speech and the evisceration of fair use,” converting copyright from a simple “copy” right into a regime that governs all speech and expression in cyberspace, even when it is only tangentially related to the copyright owner in question.” She argues that the surveillance activities of the big content companies are “incompletely theorized, technologically unbounded, and, potentially, legally unrestrained.”

The public domain originated as a direct result of the copyright statutes. The growth of publicly available online content – the learning commons – is the greatest asset available for open learning ever created. The future growth of distance learning is profoundly tied-up with this commons. Distance education research is also becoming more and more dependent on the research that is accessible through the commons. Students and researchers in developing countries and small institutions cannot afford to pay the huge fees demanded by the “walled garden” databases that are symptomatic of the enclosure of the commons. (Neither can the rich large institutions!). Distance educators should support initiatives like Project Gutenberg, the Open Courseware Initiative, and the Open Knowledge Initiative as well as the recent introduction of bills to open up all publicly funded research and make it freely available on the Internet.

For distance education teachers and researchers, these copyright wars are important. The preservation of the public domain as well as our traditional rights to “fair use” or “fair dealing” are worthy goals. We must preserve open access to content. It is essential for promoting education and scientific progress. Like evil trolls guarding the gates, the copyright controllers are trying to hold sway over our actions and create walled gardens around knowledge repositories so that they can maintain full control over who uses applications or accesses content and when, where, and how they use it. Ironically, this all out assault on open information is happening, just as the Internet has opened up unimaginable opportunities for the free exchange of knowledge and universally accessible education.

*The law locks up the man or woman  
Who steals the goose from off the common  
And geese will still a common lack  
Till they go and steal it back.*

Anonymous 1764 or 1821

Let's retake the commons.

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## ***Bounded Community: Designing and facilitating learning communities in formal courses***

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### **Abstract**

Learning communities can emerge spontaneously when people find common learning goals and pursue projects and tasks together in pursuit of those goals. *Bounded* learning communities (BLCs) are groups that form within a structured teaching or training setting, typically a course. Unlike spontaneous communities, BLCs develop in direct response to guidance provided by an instructor, supported by a cumulative resource base. This article presents strategies that help learning communities develop within bounded frameworks, particularly online environments. Seven distinguishing features of learning communities are presented. When developing supports for BLCs, teachers should consider their developmental arc, from initial acquaintance and trust-building, through project work and skill development, and concluding with wind-down and dissolution of the community. Teachers contribute to BLCs by establishing a sense of *teaching presence*, including an atmosphere of trust and reciprocal concern. The article concludes with a discussion of assessment issues and the need for continuing research.

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**Keywords:** learning community; instructional design; emergent systems; collaborative learning; teaching presence; sense of community

## **Bounded Community: Designing and facilitating learning communities in formal courses**

New theories of culture-mediated cognition and advances in distributed-learning platforms have prompted interest in learning communities among instructional technologists. Lave and Wenger's (1991) communities-of-practice model led to a number of workplace innovations, but also to instructional environments that rely on collaborative forms of learning, sharing, inquiry, and group participation. In common with communities of practice, learning communities are instances of complex emergent systems wherein control is distributed among participants rather than centered in a hierarchical authority (Backroad Connections Pty Ltd, 2003). According to Ludwig-Hardman (2003):

*An online learning community is a group of people, connected via technology-mediated communication, who actively engage one another in collaborative learner-centered activities to intentionally foster the creation of knowledge, while sharing a number of values and practicesp (p. iv).*

While a hands-off approach may work with some Web-based interest groups and groups sharing a common business purpose, establishing community within formal courses is often problematic. Educational courses, online or classroom-based, are not wholly voluntary, self-organizing groups. Rather, courses typically serve as required, encouraged, or elective components of a larger program of study – a degree, certificate, or credential of some kind. These programs may be voluntary in the sense that people freely choose to enter, but once in, they must adhere to the regimen mandated by the state, accrediting organization, or employer.

### **Bounded Communities**

This leads to a different notion of learning community within a curriculum framework – bounded by the expectations inducing participation, but also by the timeframe of a typical course. Course participants come together for a standard, pre-determined period of time, sometimes a term or semester in length, but often for a shorter duration, especially for workplace learners. Course participants thus find themselves in a situation where:

- Participation is required in order to obtain a desired end
- They do not choose their classmates or instructor
- They must commit to a fixed length of time
- They must make an explicit effort to connect with others (by coming to school or connecting online).

These parameters affect the nature of community that may or may not take shape within a formal learning context. The formation of community within a course takes leadership, support, and facilitation. An instructor or facilitator needs considerable skill in this area, as well as resources, tools, and structures to assist the effort. Most teachers will affirm that emergence of community depends on a group's collective personality or character, and the distributed participation of group members. That participation, however, is mediated by the rules, incentives, and structures that together form the course infrastructure. Some rules and structures will contribute to the formation

of community, while others work against its creation, for example, mandated individual assignments graded on a curve and other competitive structures.

Our use of the term *bounded* learning community denotes certain constraints placed on the community formation within course-based learning environments. The community experience is bounded by the parameters listed above. While parameters are normally thought of as constraints, they may also serve as affordances that enable certain kinds of learning and activities to transpire; for example, safely removed from work responsibilities, students may be able to share concerns or practice skills more freely. When appropriate conditions are met, a level of community can, indeed, be established in courses.

The purpose of the present paper is to develop the idea of bounded learning communities with reference to the professional literature, and to suggest strategies for supporting learning communities within formal courses, particularly those distributed to learners at a distance.

## **Why Learning Communities?**

Interaction within courses often occurs between the teacher and the class, with individual students asking and answering questions while others listen. When those forms of interaction predominate, a sense of community does not really develop, yet students continue to attend, listen, interact occasionally, study, learn, and pass tests. Based on this teaching experience, many teachers, in classrooms and online, may question the need for learning communities, especially in content-intensive courses with a fixed curriculum. While we acknowledge and respect a number of different approaches to teaching, we offer three reasons why bounded e-learning communities should receive serious consideration:

### ***Learning communities provide a social context for the material***

Through collaborative work, students experience and develop an appreciation for multiple perspectives; refine their knowledge through argumentation, structured controversy, and the sharing of ideas and perspectives; learn to use colleagues as resources; and are more willing to take on the risk required to tackle complex, ill-structured problems (Dunlap and Grabinger, 2003).

### ***Students feel more connected within a community***

Students taking online courses often feel isolated and disconnected from the instructor and other enrolled students. Fostering a sense of community can reduce feelings of isolation, improve the learner's attitude toward the course and the content, and ultimately boost student retention (Ludwig-Hardman and Dunlap, 2003).

### ***Learning communities can serve as a bridge between school and work environments***

Solving authentic problems collaboratively within a course environment offers a safe but authentic *practice field* for acquisition of skills that will transfer to work situations (see Barab and Duffy, 2000). By participating in a learning community, students engage in the authentic culture of the discipline they are studying using the physical and mental tools of the discipline, thus

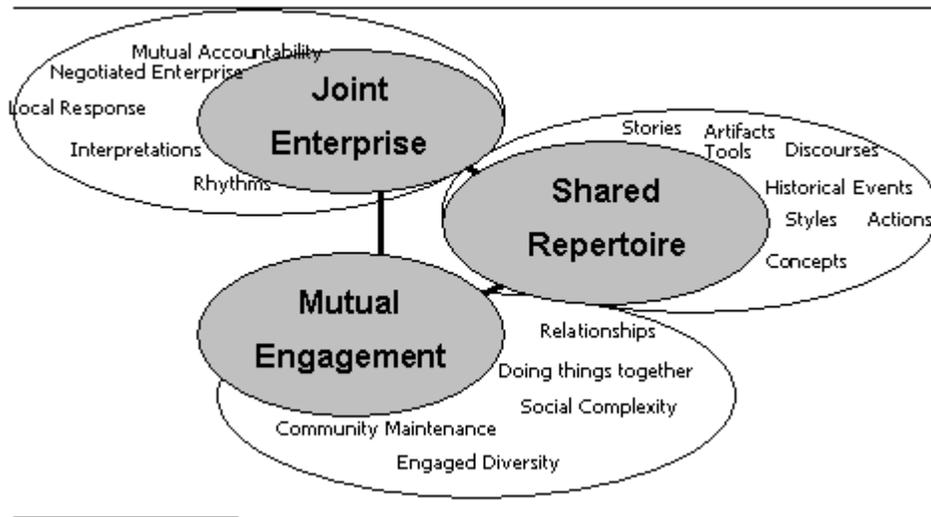
preparing them for entry into communities of practice beyond the course (Dunlap and Grabinger, 2003). Similarly, a BLC provides opportunity for reflection, analysis, and study that often is neglected in a busy workplace environment.

In summary, we believe that most courses are richer and more authentic learning environments when learning communities are encouraged and supported. Even students in self-paced courses can benefit from linkage to a larger community of students. Granted, some courses focus entirely on skill acquisition, and the skills in question may be technical and not collaborative in nature. On closer observation, however, those skills will need to be applied in a practical context, and then, almost surely, social variables will enter into play. Designers and instructors rightly should determine strategies most appropriate for their situation, but we do believe the use of a bounded learning community is a fairly robust teaching approach suitable for a wide range of situations and needs.

## Components of Learning Community

Learning communities share essential qualities with Wenger's notion of communities of practice. Figure 1 presents Wenger's foundation for communities of practice. Essentially, participants must 1) be engaged in a *joint enterprise*, some compelling purpose or project that draws them together; 2) have common access to a *shared repertoire* of resources, including stories, concepts, and tools; and 3) maintain relationships through *mutual engagement* in trust-building activities. In classic form, communities of practice take shape within and around work organizations, playing off their structure and generally facilitating organizational ends.

**Figure 1.** Key components of communities of practice (from Wenger, 1998a, p. 73).



Bounded learning communities also depend upon the organization, in this case that of a training unit and a course for an underlying purpose and context of operation. Indeed, course-based learning communities can be seen as a special case of a community of practice, wherein:

1. The major enterprise is intentional learning, completing required activities, and performing well on course assessments
2. The group membership is based on course enrollment and team assignment

3. Resources are shared and interactions conducted under the guidance of an instructor

In contrast to classic communities-of-practice formulations, substantial supports for course-based communities can and should be designed ahead of time by the instructor, anticipating the learning and collaborative needs of students. Based on Ludwig-Hardman's (2003) comprehensive review of the learning-community literature, we have identified seven features that seem to facilitate its creation: 1) shared goals; 2) safe and supportive conditions; 3) collective identity; 4) collaboration; 5) respectful inclusion; 6) progressive discourse toward knowledge building; and 7) mutual appropriation. These features are not strict criteria to be satisfied to develop a learning community, but they are qualities or features associated with learning communities, which should be considered when attempting to establish or support such communities in courses and programs.

### **Shared Goals**

A learning community forms, in part, when individuals from multiple perspectives willingly collaborate as a larger collective whole toward a shared goal or vision (Barab and Duffy, 1998; Palloff and Pratt, 1998; Senge, 2000). “The sense of shared community requires that the participants be sympathetic to the ideas around which the group is based; even if they disagree, there needs to be some fundamental common ground” (Donath, 1999, p. 31). When members of a community share goals there is a greater desire to participate in activities and to contribute to the group's goals (Wilson, 2001). For example, students in a course may be assigned into working groups to complete a project, with a grade based on both individual and group performance. By establishing goals and rules that mandate interaction and co-dependence, students can develop a shared goal that gives real purpose in collaboration.

### **Safe and Supporting Conditions**

A learning community provides caring and nurturing conditions that foster the development of trust and respect among the learners (Coombe, 1999; Retallick, 1999). This, in turn, encourages risk-taking, the exchange of ideas and feedback, shared responsibility and support for learning and outcomes, and distributed or negotiated control (Barab and Duffy, 1998; Downes, 1998; Etzioni and Etzioni, 1997; Grabinger and Dunlap, 1996; Hiltz, 1998; Jonassen, Peck, and Wilson, 1999; Lawrence, 1997; Scime, 1994; Wells, 1999). The teacher's role in modeling respectful behavior in interactions is important, as is monitoring of interactions between students. Students often benefit by participating in establishing rules and norms for group interaction to ensure a safe and respectful environment.

### **Community Identity**

The symbolic construction of a community is accomplished by:

. . . ensuring that the group is apart from and different from other social groups through the establishment of a group identity recognizable from within and outside of the group. The boundaries of community comprise the “face” presented to outsiders, “its collective public identity” (Calderwood, 2000, p. 12-13).

Clearly defined boundaries provide for inclusion and exclusion of members. Maintaining clear boundaries may encourage ongoing interaction and greater intimacy, and assurances that the learners' efforts will not be reaped by others who have not contributed to those efforts (Kollock, 1996). Boundaries also delineate roles between old-timers who have been stable members of the community and newcomers, allowing for the process of legitimate peripheral participation as newcomers move toward full participation in the community (Lave and Wenger, 1991).

A learning community's identity is largely formed by the community's history or heritage, including the shared goals and belief systems, rules and norms of the community that is reproduced as new generations of members enter the community to assure that it continues to function (Barab and Duffy, 1998; Scardemalia and Bereiter, 1996). A shared history also encourages the development of group identity, which enhances reproducibility as new members contribute, support, and eventually lead the community into the future (Barab, Barnett and Squire, 2000; Barab and Duffy, 2000; Lawrence, 1997).

On this point, however, bounded learning communities differ from more emergent varieties. The challenge for course designers is to establish nearly *instant traditions* that draw on traces of history but do not depend on a continuing line of group members. Achieving a rapid sense of community is a formidable challenge, according to the conventional wisdom:

[If members of a] group will not meet each other in the future, if there is no stability in the names and identities that people adopt, and if there is no memory or community record of previous interaction, it will be very difficult to create and maintain a cooperative online community (Kollock, 1996, p. 235).

The limited nature of contact and interaction in online courses can inhibit students identifying with the group. At surface levels, students may identify with the group and see themselves as partners and collaborators. Establishing deeper levels of identity change is rarer and may depend on the intensity of the learning experience and whether students encounter one another in continuing courses. Larger contextual factors may also be important, for example, students' sense of belonging within an academic or work program. In any case, identity remains an important consideration for learning communities, and can serve as a continuing goal for e-learning courses and environments.

## Collaboration

Involvement in a learning community requires high levels of social interaction. Salomon and Perkins (1998) state: "learning to learn fundamentally involves learning to learn *from* others, learning to learn *with* others" (p. 17). Collaborative online learning communities provide community members the chance to learn from and with others and to contribute to others' learning.

Collaboration in e-learning environments is often a challenge for students. Essential preconditions such as getting everyone's contribution in a timely way can be difficult, depending on the mix of group members. Students' preconceived notions of what happens in an online course can also interfere with collaboration; many students still believe that online learning is like correspondence and, therefore, individualized and self-paced. "Weak" forms of collaboration, such as threaded discussion of assigned topics, are generally easier to sustain than stronger forms that require true negotiation, management, and decision-making. These stronger forms of

collaboration may test a group's coherence, but if the group is successful in their work, bonds are strengthened and a true sense of connection established.

## **Respectful Inclusion**

A learning community values and seeks to accommodate diversity of membership, opinions, and perspectives, along with authentic expression of those perspectives (Barab and Duffy, 2000; Brown and Campione, 1994; Jonassen, Peck and Wilson, 1999; Reil, 1996; Sergiovanni, 1999; Wellman and Gulia, 1999; Wells, 1999; Wenger, 1998b). At the same time, deep differences between group members can be a threat to coherence, especially if a means of resolving differences is not worked out. Online courses need clear rules and supports for including all group members in work and decision processes. Dewey (1916) asserted:

A society which makes provisions for participation . . . of all its members . . . is democratic. Such a society must have a type of education which gives individuals a personal interest in social relationships and controls, and the habits of mind which secure social changes without introducing disorder.

The topic of diversity and inclusion is a challenge for e-learning, perhaps more so than other environments because of the natural distancing felt by many learners. Some aspects of diversity (such as gender, age, ethnicity, learning challenge/ disability, etc.) are masked in an online setting. As in all forms of education, however, some learners' needs are not clearly addressed by the course, and these individuals will likely be lurking at the margins and not participating fully in collective tasks. People at a particular disadvantage include those not fluent in reading and writing; those unskilled in independent problem solving; and those lacking prior knowledge of the subject matter.

Based on best cases, successful learning communities can accommodate surprising levels of diversity in safe and supportive environments that invite risk-taking, learner control, and agency. Getting to that point of full engagement by every learner, however, will always be a challenge for course designers and instructors. And in general, finding effective means for respectful and full inclusion of all learners remains one of the challenging tasks in need of further research and development.

## **Progressive Discourse toward Knowledge Building**

Bereiter (1994) proposed the term *progressive discourse* to describe the process by which the sharing, questioning, and revising of opinions leads to “a new understanding that everyone involved agrees is superior to their own previous understanding. Such discourse is based on four commitments that all participants make: a) to work toward common understanding; b) to frame questions and propositions in ways that allow evidence to be brought to bear on them; c) to expand the body of collectively valid propositions; and d) to allow any belief to be subjected to criticism if it will advance the discourse” (Bereiter, 1994, p. 6). Scardamalia and Bereiter (1994) further indicate that intentional learning is “fundamentally a matter of goals rather than strategies. It is a matter of having knowledge as a goal” (p. 201). It is the active and intentional pursuit of knowledge that distinguishes learning communities from other chance encounters or purely social networks (Palmer, 1999). Progressive discourse and intentional knowledge-building both help to differentiate learning communities from communities with other kinds of discourses and performance goals.

## Mutual Appropriation

Brown and Campione (1994) define mutual appropriation as the process by which “learners of all ages and levels of expertise and interests seed the environment with ideas and knowledge that are appropriated by different learners at different rates, according to their needs and to the current state of the zones of proximal development in which they are engaged” (p. 237; see also Vygotsky, 1978). Mutual appropriation refers to the bi-directional and reciprocal nature of learning in which members of the community are both learners and teachers (Butt, 1999; Sergiovanni, 1999).

Since active participation in a learning community takes time and effort, distance learners must perceive that there is some benefit to be gained from participation in a learning community and that they are getting a “personal return on their investment in the group” (Wilson and Ryder, 1996; see also Levin, 1995). Rogers (1995) calls this *relative advantage*, a sense that there will be some payoff or benefit to adoption of the new practice. Further, learners that perceive there is a mutual benefit will more likely feel a sense of obligation to “participate in activities and contribute to group goals” (Wilson, 2001). Mutual appropriation can provide intrinsic rewards and incentives to members who continue contributing as both learners and teachers within the community.

For design purposes, the seven features outlined above can serve as an organizing framework for interventions and strategies aimed at increasing community, offered later in the paper. Or, more holistically, course resources may be analyzed and determined to be strong or weak in one or more of the seven features, leading to adjustments in the environment, tasks, or support structures.

## The Teacher's Role

Teachers are a critical component of bounded learning communities. They must:

- Provide the infrastructure for interaction and work, including syllabus, communication tools, and information resources
- Model effective collaboration and knowledge construction
- Apply instructional strategies
- Supervise student activities
- Monitor and assess learning, providing feedback, remediation, and grades
- Troubleshoot and resolve problems, including meeting needs of hard-to-reach students
- Establish trusting relationships with students

This last task, establishing trusting relationships with students, can sometimes be neglected in online environments. We believe this is a mistake, because online learners need to have confidence in their teachers as guides in their journey toward new learning.

The remaining focus of this section is a discussion of *teaching presence* and its contributing role in bounded learning communities. To some extent, this discussion balances the technical features of learning communities established above and serves as a reminder of the qualitative, interpersonal foundations of course experiences.

Upon entering a new course environment, students observe and establish schemas for the course and instructor, adjusting their existing schemas, which are based on years of observation and experience in school situations. Depending on the design and details of the course and the messages sent from the instructor, students may feel varying levels of safety and trust. Because community-building depends on student initiative and willingness to take risks, establishing a trusting relationship with the teacher is an important precondition for successful learning communities.

Much of the current literature on presence is based on either psychometric notions of social distance or technical notions of presence as an illusion that a mediated experience is not mediated (Lombard and Ditton, 1997). Thornam (2003) describes teaching presence focusing on the teacher-student relationship, grounded in the existential view of the obligation imposed when people make interpersonal demands on the other (e.g., Hand, 1989). *Teaching presence* is defined as:

. . . an intersubjective experience during which a teacher and a student willingly move together toward valued learning. By being there with the student, the teacher reduces the student's educational vulnerability and by knowing the student, feelings of helplessness or abandonment are allayed. Both submit to the power of the other to influence, penetrate and engage, and are equally willing to be changed by the experience (Thornam, 2003, p. 7).

Indicators of teaching presence are presented in Table 1 on the next page.

**Table 1.** Themes supporting the construct of teaching presence, with associated attitudes, actions, and beliefs (adapted from Thomam, 2003, p. 54).

Themes	Associated Attitudes, Actions and Beliefs
Interpersonal, human relatedness	<ul style="list-style-type: none"> <li>• Authentically relates and genuinely represents self to students</li> <li>• Interactions are beyond the mechanical – not rote</li> <li>• Reveals self to the student (appropriate personal and professional self-disclosure), i.e., does not just put on another hat while teaching</li> <li>• Joins with the student</li> <li>• Communicates empathy for the educational vulnerability of students; listens without judging</li> <li>• Respects the dignity of the student by using a high degree of immediacy in verbal communication, i.e., students are not objectified</li> </ul>
Believes in the agency of the student, that is, sees students as the causal agent who largely self-determines their own learning	<ul style="list-style-type: none"> <li>• Advances students' efforts to become an independent and intentional learner</li> <li>• Engages students in active learning and riskful thinking</li> <li>• Builds students' self-efficacy through participative/affirmative experiences</li> </ul>
Mutual willingness to be available and by the side of the other	<ul style="list-style-type: none"> <li>• Is available to students and focused on them, even when rushed</li> <li>• Explains things at the student's level as many times as needed</li> <li>• Intellectually honest and demanding</li> <li>• Holds self and student accountable for moving toward valued learning</li> <li>• Issues reassurances, such as "I'll be right here" when the underlying message is "Someone focused solely on your [educational] welfare is present" (Gardner, 1991, p. 192).</li> </ul>
Communicates and dialogues effectively with students	<ul style="list-style-type: none"> <li>• Communicates and demonstrates expertise in the subject matter</li> <li>• Is personally committed to strengthening their own and students' knowledge bases</li> <li>• Maintains professional (teacher) self-efficacy</li> </ul>
Trustworthily pursues the student's best interest	<ul style="list-style-type: none"> <li>• Knows where to go and how to get there</li> <li>• Enthusiastically leads students toward worthwhile learning goals with competence/confidence</li> </ul>

Teachers should model community participation skills and values, including turn-taking, netiquette, thoughtful responses to peers' posts, and organization and facilitation of community events or chat. They should actively monitor the community discussions to answer questions, resolve conflicts, and guide discussion as needed. Students quickly pick up on the "absent" instructor, and take tasks less seriously when they sense its lower priority. Instructors can be deemed "absent," both literally and figuratively. Teachers can avoid being viewed as figuratively absent by relating meaningful personal and professional experience.

The schemas students use to make sense of classrooms and online learning environments are largely based on the interactions they have with teachers and other students. Attitudes, actions, and beliefs associated with these two themes give us clues about strategies teachers can use to foster a strong sense of presence with students. Students then feel safer to engage in progressive discourse toward knowledge building, mutual appropriation, respectful inclusion, and collaboration, all of which are important elements in community formation.

### **Ritualized Forms for Communities-in-Progress**

A key observation of Ludwig-Hardman (2003) was that bounded learning communities have a developmental life cycle. Students are asked to engage in a pre-defined sequence where they first learn the ropes, then enter into intensive interaction with peers, then conclude the experience with reflection and some kind of ritualized closure experience. These three stages can be termed: *initiation*, *participation*, and *closure* respectively.

The developmental form of the course may become clearer to students if guiding symbols and artifacts are presented as part of the course structure. Cultural anthropologists have studied local communities for many years and have observed ways that communities express meaning and values through language and rituals. These cultural artifacts help community members make sense of their worlds and participate meaningfully in group activities. Trice and Beyer (1984) analyzed corporate cultures within business organizations, looking for rituals and rites that defined the community.

On the next page, in Figure 2 we apply these ideas to the design of courses. We present a set of questions intended to stimulate thinking about various forms of cultural artifacts and how they might be related to a bounded learning community. Designers of online courses could establish a number of signs, symbols, rituals, and language pointers to strengthen the developmental arc of the course and to encourage positive engagement in community interactions.

**Figure 2.** Job aid for analyzing culture within a bounded learning community, based largely on categories from Trice and Beyer (1984).

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### Analyzing Culture for Bounded Learning Communities

1. Briefly describe the *learning community* being analyzed and the *constraints* that define its development:
  2. Compare and reflect on the *forma*/structure of the class with the *informa*/structure of power and communication. How are these aligned? How are they mutually compatible or competing with each other?
  3. Identify some informal leaders and how they may contribute to establishing community.
  4. Consider any existing or contemplated rituals used within the course. If rituals are not presently in place, try to develop some that may be appropriate.
    - Rites of *passage* help individuals form their identity, identify points of transition, celebrate progress, and bring closure to life changes.
    - Rites of *degradation* communicate to a person and the group that a person is no longer a member of the community or has performed inadequately. [Note: Most forms of this kind of rite may be inappropriate in courses, due to the negative motivational effects of forced social comparisons.]
    - Rites of *enhancement* recognize a person's standing or accomplishments.
    - Rites of *renewal* help class members assess the group's progress and identify ways in which the course experience can be improved.
    - Rites of *conflict reduction* offer ways to resolve conflict in legitimate and sanctioned ways.
    - Rites of *integration* occur when group members assemble to increase their solidarity and shared identification with the organization.
  5. Identify any *stories* that help define the course, its content, or the community.
  6. What are some *symbols* or *metaphors* that help shape the local culture?
  7. Who are some of the *heroes* valued within the course or the group?
  8. Note any distinctive *language* used within the course.
- 

Points 1-3 in the job aid acknowledge the power structures within a class, and the important roles that particular class members play in achieving community. Instructors are well-advised to identify early on informal leaders, including those who may not participate as actively, but whose beliefs and attitudes are influential within the group. Instructors who are able to assess the talent and resources within a group, and then tap that talent for the good of the group – these instructors will be more successful in establishing a strong sense of community.

Point 4 of the job aid asks instructors to reflect on various functions that happen within community – passage, renewal, conflict reduction, and so forth – and look for outward forms and rituals that could relate to those functions. Rituals or symbols relating to these critical functions could help orient the student toward the rhythm, pacing, and expectations of the course. An instructor, for example, may pace the course to rise to a climax of participation and challenge, to

be followed with a calmer time of reflection and consolidation (see Parrish, 2004, and Parrish, in press, for more on dramatic pacing in courses). A specific ritual such as a poster session could denote closure on one phase and movement toward the next.

The remaining points in the job aid consider stories, symbols, heroes, and language, all of which may be used to strengthen community. Instructors who are cognizant of local culture may specifically design the course with these items in mind, particularly at early stages. One instructor in an on-campus Master's program begins a leadership class by decorating a classroom with a Polynesian theme and having students engage in a number of ritual-type activities. This sends a clear message to students that the course is different from others they have taken, that they need to loosen their schemas, pay attention, and be prepared to exercise their imagination and do things differently. Students in that class are likely to develop a distinctive sense of community based on the unusual rituals and symbols used by the instructor throughout the course.

## Strategies for Strengthening Bounded Communities

Table 2 presents a number of strategies within each of the seven features of learning communities. Instructors experienced in supporting learning communities will doubtless have additional ideas and strategies to add to the list.

**Table 2.** Sample strategies for leading, supporting, and facilitating effective learning community membership.

Feature	Facilitating Strategies
Shared goals	<p>Build course around projects and challenges that are authentic and meaningful to learners.</p> <p>Ask each learner to share her/his goals for the learning experience. As a community, have the learners determine commonalities and differences across goals, determine which goals can be addressed by the community, prioritize those goals, create action plans for fulfilling the goals, and offer suggestions for fulfilling individual goals not embraced by the community.</p> <p>Have learners develop assessment rubrics for community work based on shared goals.</p>

<b>Safe and supporting conditions</b>	<p>Allow private subgroups and private discussions.</p> <p>Post private profiles and appropriate personal information.</p> <p>Model community participation skills including <u>turn-taking</u>, <u>netiquette</u>, thoughtful responses to peers' posts, and organization and facilitation of community events or chat.</p> <p>Actively monitor the community discussions early on to answer questions, provide feedback, resolve conflicts, and guide discussion as needed.</p> <p>Train students to serve the monitoring role in discussions, then transfer leadership to them.</p> <p>Establish a contingency plan to deal with technical challenges. Have learners formally set "rules of engagement" for the community.</p> <p>Encourage learners to engage in the community by posting low-risk questions that stimulate discussion.</p>
<b>Community identity</b>	<p>Have learners:</p> <ul style="list-style-type: none"><li>• Create a promotional campaign used to encourage others to join the community.</li><li>• Develop a community logo and motto to be used on all community materials (e.g., website, reports).</li><li>• Create personal profiles and a community profile.</li><li>• Establish cyclical events that encourage ongoing learner participation.</li></ul> <p>Generate email reminders or updates to be sent to learners based on their preferences. The emails could notify learners to new postings to the community, upcoming events or guest speakers, deadlines, etc.</p> <p>Continually add fresh content to the environment and embed scaffolding to guide learners to the resources.</p>

<b>Collaboration</b>	<p>Provide adequate tools for communication and self-presentation.</p> <p>Allow (or assign) learners to develop subgroups to focus on tasks and projects.</p> <p>Provide for different learner roles within teams and within the community.</p> <p>Train learners in specific team roles.</p> <p>Utilize open-ended topics that encourage members to identify multiple solution options.</p> <p>Have learners work as a community on authentic problems of practice.</p> <p>Provide (or have learners develop) a rubric for assessing effective collaborative contributions.</p> <p>Develop a reward system that targets collaborative work.</p>
<b>Respectful inclusion</b>	<p>Have learners share stories on a particular theme (e.g., most valuable learning experience, most important role model) and then look for commonalities and differences across stories.</p> <p>Have each learner create a virtual field trip or scavenger hunt that the other learners complete to gain a better understanding of what each individual values.</p> <p>Have learners interview each other and have each learner:</p> <ul style="list-style-type: none"><li>• Collect as many different perspectives/opinions on a topic as possible.</li><li>• Write a story about the interviewee and share it with the community.</li><li>• Write a reflective statement about how her/his views on a topic differ from the views of the interviewee/s.</li></ul> <p>Have learners collaborate on projects that require multiple perspectives, roles, and solution options to encourage the sharing of diverse experiences and viewpoints.</p> <p>Provide specific methods for giving constructive peer feedback, then monitor exchanges to ensure respectful interactions.</p> <p>Train teams to negotiate differences, resolve disagreements, and assure full participation.</p>

<b>Progressive discourse toward knowledge building</b>	<p>Have learners assign "karma points" to community colleagues based on the value of their contributions.</p> <p>Each week, have a different learner summarize the previous week's discourse and bring forward the key points, action items, unanswered questions, etc.</p> <p>Involve learners in a progressive writing or product building project. Each learner adds something to the story or product and passes it on to the next learner. When completed, have learners reflect on various passages or aspects and describe the author's/ contributor's perspective, assumptions, expertise, background, etc.</p> <p>Involve learners in debates and role-plays where learners have to take positions opposite of their own.</p> <p>Invite experts to the community to share ideas and facilitate discussion.</p>
<b>Mutual appropriation</b>	<p>Assign each learner to be a mentor to another community colleague for a particular topic. Every learner has an opportunity to be a mentor and a mentee.</p> <p>Engage learners in a jigsaw activity. Each small group develops expertise in a particular area, and then expertise group members are dispersed to new groups in which each group member has unique expertise. These new groups work on compelling problems of practice, bringing their expertise to bear on the problem and teaching the other group members in the process.</p> <p>Have learners share or rotate leadership roles within groups.</p>

We encourage consideration of these strategies within the three phases of the development arc discussed above. For instance, the *initiation* stage may focus on developing safe and supporting conditions and community identity. During the *participation* stage focus may turn to identifying shared goals, collaboration, and respectful inclusion. With most of these elements in place, learners may be prepared to engage in progressive discourse and mutual appropriation in support of knowledge building. *Closure* can be a time to re-examine community identity and reflect on the intensive activities of the participation phase. Students can further link knowledge together and consolidate gains, ensuring a better match to performance expectations beyond the course.

## Tools for Assessing Community

Students in a bounded learning community would be expected to report a sense of belonging to that community. A research instrument has been developed to formally measure *sense of community* (Rovai, Lucking, and Cristol, 2001; see also McMillan, 1996, and Rovai and Lucking, 2003). This instrument is based on a somewhat different conceptual base than our seven features. Moreover, instructors need a shorter, more focused instrument for routine use in classes. Figure 3 offers a draft of a simple instrument for assessing levels of community within courses.

**Figure 3.** Draft measure for sense of community, not yet validated, designed for routine use in e-learning and face-to-face classes (see Rovai, Lucking, and Cristol, 2001, for a more rigorous measure). Italicized items are reverse scored.

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### Sense of Community for BL Cs

#### Shared Goals

Students in this class are focused on certain goals we have in common.

Projects and activities give us a sense of working together for something worthwhile.

#### Safe and Supportive Conditions

People feel comfortable expressing their thoughts and ideas.

*I wouldn't take too many risks in this class; not a safe environment.*

#### Collective Identity

We enjoy a sense of connection.

There is really a feeling of belonging in this class.

#### Collaboration

We interact and work together a lot in this class.

*There's not much student-to-student contact in this class.*

#### Respectful Inclusion

Differences between people are respected.

*Not much effort it made to help everyone fit in.*

#### Progressive Discourse toward Knowledge Building

Our questions and discussions help us build knowledge together.

I know why I'm working on projects—to learn better!

#### Mutual Appropriation

We teach each other a lot in this class, not just relying on the teacher.

There's room for everyone in this class.

Having access to a measure of community seems critical for instructors, if they are to make iterative improvements in their courses. We are presently working to refine and validate a short measure for this purpose, and will report on that effort in the future.

## Conclusion

If learners have truly identified with a learning community within a course, the *closure* phase may actually lead to further interactions outside of the course as students stay in touch and continue correspondence. Thus closure on a bounded group may initiate an *un* bounded community beyond the confines of a course. While this kind of continuing engagement cannot be strictly expected as an outcome, conditions can be encouraged to facilitate lasting relationships.

Course-based learning communities can bring the experience of schooling closer to everyday life by grounding experiences in community participation. Through course activities, students can establish contact with outside communities of practice, beyond the walls of the school (Wenger,

1998). This transfer to practice may be rare, but it is more likely to occur within active learning communities.

This, indeed, is one of the strengths of a learning-community approach to coursework: The participation skills gained relate very well to the lifelong learning roles expected of adults in society (Dunlap and Grabinger, 2003). Very similar skills are needed for successful participation in communities of practice. Having begun with specific consideration of bounded participation, we are nonetheless reminded that courses are not – or should not be – fully self-contained, closed systems. Rather, course boundaries should be porous – sufficiently defined to establish a clear sense of community within, but flexible enough to accommodate outside resources, including people, information, and field interactions.

The idea of community within courses is partly an issue of *what works*, and developing appropriate models and strategies to help things work better. Design research and instructional-design theories can help us develop strategies that “work” effectively. Community is also a *value*, however, a commitment toward valuing certain learning over other outcomes. Technical skill acquisition is doubtless of value, but even more valuable is the ability to use a skill to solve an authentic problem. Helping people in the transition to the workplace is a high value, and this transition is aided through work-like collaboration in courses. Teachers are valuable information sources, but even more valuable as they help students construct understanding through activity. In this respect, instructional design converges with curriculum concerns of what *should* we be teaching, how *should* we be preparing students for roles outside the classroom. This convergence of technical/ theoretical and value/ political concerns is actually a very positive condition. By directly confronting the value questions surrounding ideas of community, teachers are more likely to see their concerns addressed. With the practical support of strategies and technologies, teachers are then more likely to find success in their efforts.

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## Research Notes

# *Selecting Research Areas and Research Design Approaches in Distance Education: Process issues*

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## Abstract

The purpose of this paper is to study the process used for selecting research areas and methodological approaches in distance education in India. Experts from the field of distance education in India were interviewed at length, with the aim of collecting qualitative data on opinions on process-issues for selecting areas for research, research design, and appropriate methodological approaches in distance education. Data collected from these interviews were subjected to content analysis; triangulation and peer consultation techniques were used for cross-checking and data verification. While the findings and recommendations of this study have limited application in that they can only be used in the specific context outlined in this paper, respondents in this study nonetheless revealed the pressing need for more process-oriented research in examining media and technology, learners and learning, and distance learning evaluation processes. Our research, which yielded interesting empirical findings, also determined that a mixed approach – one that involves both quantitative and qualitative methods – is more appropriate for conducting research in distance education in India. Qualitative evidence from our research also indicates that respondents interviewed felt that emphasis should be placed on interdisciplinary and systemic research, over that of traditional disciplinary research. Research methods such as student self-reporting, extensive and highly targeted interviews, conversation and discourse analysis, were determined to be as useful for data collection for this study.

## Background

Research in distance education is typically carried out by Masters- and PhD-prepared individuals, and by research fellows of distance education institutions and conventional universities. Research leading to formal qualification or a degree is called degree-oriented research (i.e., work that leads the researcher to earn a Masters, PhD, EdD). Project research, on the other hand, does not lead to any formal qualification or degree, but instead adds to the literature, and often forms the basis for

policy formation or the rational for action taken by bodies like universities, private sector companies, or governments.

## **Literature Review**

In a 1996 study, Panda, Satyanarayana, and Sharma identified 152 studies, from which two-thirds ( $n = 109$ ) are project-oriented and one-third ( $n = 43$ ) are degree-oriented. Powar (2001), in researching the literature on distance education in India, determined that although numerous degree and project-oriented research studies have been published, most lack both quantitative and qualitative rigor compared with international research standards (Powar, 2001). Sahoo (2001), in his review of the literature conducted in the area of distance teacher education in India, discovered gaps between the needs and priorities of distance education research, and actual attempts made so far in that direction. Sahoo further found that the major emphasis of research on distance education technology in particular, has focused almost exclusively on evaluation of different components of the distance learning system in terms of different criteria; while research studies on other aspects – most particularly process aspects – remain isolated. Kaul (1997), for example, found that most research conducted in India to date tends to focus on descriptive surveys confined to comparisons of enrolment trends and academic achievement. The methodology used for these studies relied mostly on descriptive survey approaches, experimentation for testing the efficacy of various approaches/ models, and qualitative data analysis techniques. Similarly, Sesharatnam (1996) in reviewing research activities in distance education in the Indian province of Andhra Pradesh, found that research efforts have been fragmentary and isolated from any established theoretical perspective. According to Sesharatnam, most studies conducted to date in India have typically focused on issues at the micro-level and were evaluative in nature. Most studies in India are of a descriptive type – highlighting the status and functioning of a component of the system. This approach, however, shows the lack of research on "process-issues" aspects of distance education. It also reveals the dominance of quantitative research, often at the expense of the more qualitative aspects of research.

From the above discussion, it is evident that there are significant problems with the manner in which distance education research is currently being conducted in India. India currently lacks both quantity and quality of research studies examining distance education as a process driven system. India is not alone in this plight, however. When examining distance education research on international level, other nation's research such tends to be less than sufficient as well. Evans (2000), for example, argues that open universities have many things in their favour, but generally "research" is not one of them. Open universities tend to be perceived as parasitical in the sense that they have historically relied on their host (i.e., "real" universities) to produce the knowledge for their course offerings, and train the "open university" academics who teach them. Conventional universities even often contribute the expertise for course development for open university systems. Evans's argument implies that the process of research in distance education needs to be fundamentally different from that of conventional educational research. To this end, researchers engaged in distance education research are showing signs of increasing attention paid to issues in distance education research, particularly within the framework of appropriate theoretical foundations – a phenomena that is reflected in an increase in theoretical and methodological articles that have been published in recent years (Saba, 2000). Nonetheless, in spite of this advancement, we still need more and better-designed studies on distance education problems and issues. As such, open universities need to take up the issue of research seriously if they wish to be at the forefront of higher education both nationally and internationally, and if they wish to be perceived as legitimate "universities" in their own right (Evans, 2000).

From the foregoing discussion, it is important to understand the “process-issues” for selecting research areas in distance education, and research design and related methodological approaches used to underpin such research. Research on the relationship between what goes on while organizing research, and the product outcomes of research itself, is clearly an important task in formulating a research design. Understanding the nuts and bolts of this relationship can improve the quality of research, and ultimately the whole process of distance education itself.

## **Research Question**

This paper seeks to answer the research question: *What are the process-issues for selecting research areas, research design, and methodological approaches in distance education?*

## **Process-Issues in Distance Education**

Quality lies in its processes. Output is the result of such processes. A process is a sustained phenomenon marked by gradual changes through a series of actions that lead toward a particular result. Good quality inputs coupled with weak processes often do not lead to desirable outcomes. On the other hand, good quality processes coupled with minimum essential inputs often do lead to desirable outcomes. An “issue” is a point of debate or controversy on which the parties take variety of position, ranging from affirmative to negative. By speaking of process-issues, the focus is on how the series of actions are brought about to achieve the desired goal of distance education (Mishra, 2002).

## **Research Design**

This study used a qualitative research design to provide a more comprehensive picture of each aspect of the study. It must be noted, however, that the findings and recommendations of this study have limited application to other contexts, and therefore one cannot generate axioms that are widely applicable to other situations. What this study does yield, however, are interesting insights into suggested areas for further research, specifically those using qualitative designs as a basis for developing insight and gaining understanding into process-issues of distance education.

## **Sample**

The study was conducted on a convenience sample of thirty experts. Experts (i.e., departments heads, professors, readers, senior lecturers, tutors, and directors) knowledgeable on the current trends in distance education formed the sample of our study. This sample was drawn from India's open, conventional, and national level institutions and un'iversities: National Council of Educational Research and Training, New Delhi; National institute of Educational Planning and Administration, New Delhi; National Institute of Open Schooling, New Delhi; Indira Gandhi National Open University, New Delhi; Association of Indian Universities, New Delhi; Institute of Applied Manpower Research, New Delhi; Kota Open University, Kota, Rajasthan; M.S. University of Baroda, Vadodara; and Devi Ahilya Vishwavidyalaya, Indore.

## **Method**

A semi-structured interview called: “Process-Issues for Organizing Research in Distance Education: Interview Schedule” was used to collect data. Items comprising the interview schedule

were written and structured to encourage respondents to focus on particular topics on process-issues such as: selecting priority areas of research, issues related to quantitative versus qualitative research, processes of enhancing different types of research, and issues on selecting appropriate methodology of research in distance education. The interview schedules also included open-ended questions, so respondents could elaborate on points of interest.

## **Data Collection**

Data collection took place during semi-structured, face-to-face interviews conducted over a three month period from January 2001 to March 31, 2001. Interviews typically lasted between 45 to 60 minutes, but some lasted as long as 1.5 to 2 hours. The interview process was divided into three stages: pre-interview, interview, and post-interview stage. Respondents were given a copy of the schedule prior to the interview, a time and place was agreed upon, informed consent was obtained prior to conducting the interview, and the results of each interview was transcribed immediately.

## **Data Analysis**

Content analysis was used to analyze the transcribed data of each interview. Each transcription of each interview was read line-by-line, and then divided into meaningful analytical units called "categories." After locating the meaningful categories, the research team coded them. Triangulation was used for cross-checking and verification of data through the use of different information sources. This includes a variety of data sources, the interviews, theoretical models, and research methods. Stronger conclusions can be drawn from comments made by more than one responding expert. Also, conclusions drawn from the interview data could be compared to previous results and related literature. A peer consultation among researchers was used to test and re-test the findings.

## **Process-Issues in Selecting Research Areas and Methodological Approach**

The quality of a research study is dependent upon the nature of the problem undertaken by the researcher, and the research design and supportive methodology selected to explore the problem. At this point, researchers are confronted with various and often conflicting aspects of research. The need to study the underlying research design, method, and process issues in research in distance education is clear. As such, it is interesting to note that the following four issues emerged while interviewing the respondents.

1. Priority areas of research
2. Issue of quantitative versus qualitative research
3. Enhancing different types of research
4. Methodology of research in distance education

## **Priority Areas of Research**

Distance education is changing with an alarming speed, particularly as educational processes become increasingly globalized in terms of physical reach and scope of courses and programs of

study offered. Different viewpoints on distance education are emerging, reflecting the rapidly evolving nature of this increasingly important educational discipline. Workshop participants at the Open University, Hong Kong (OUHK, 1999) determined that research examining both on short-term and/or local problems, as well as long-term research that can be applied to other contexts, is needed to contribute to the growing body of knowledge on the subject. Moore (1995) advocated not to undertake more media-comparison studies or other meta-analysis. He suggested focusing on the features of particular media to see how they contribute to learner outcomes, what possibilities exist in various settings, whether things are working, and if not, how to fix the situation. The following views, which reinforce the thoughts outlined above, emerged during our interviews of the distance education experts.

1. Around 80 percent of the distance education experts (respondents) felt that emphasis on current research should be placed on media and technology. They emphasized the need for research on the process-related issues of design, development, and effectiveness of materials; use of media by students; organization of radio programmes, TV programmes, tele-conferencing, audio conferencing; and each modality's effectiveness. This group felt research was necessary to examine multi-channel learning systems (i.e., to determine how much of learning can be attributed to print, how much to tutoring, and how much to a combination of two or more media). Comparative studies on different formats from the same media were also determined as necessary areas for further research – for example, comparative studies examining alternative format in print materials to see which format is more effective for learning.
2. Approximately 60 percent of respondents interviewed advocated research conducted on examining learners and learning. They indicated research should be undertaken on adult learners' learning styles; factors that motivates students to learn; research on “how” students learn using print, audio, video materials; problems students confront while working with materials; and students' needs, attitudes, previous knowledge, socio-economic background, characteristics, aspirations, and study habits.
3. More than 50 percent of respondents opined that research should examine evaluation processes. They cited the importance of follow-up studies to examine the influence of specific training programmes, and utilization of training programmes in the classroom. These respondents also felt research should examine student evaluation; feedback on assignments; what exactly students perceive they will achieve upon completion of their studies versus actual employment opportunities available upon successful completion their course(s).
4. Approximately 30 percent of respondents advocated further research on student support services. These respondents felt that research should examine the use of study centres, resource availability versus actual utility at study centres; and the student support processes of counselling, teaching, educational delivery mechanisms, and staff working study centres (i.e., staff members' attitude and involvement in facilitating learning of distance learners).
5. Approximately 25 percent of respondents held the opinion that the basis of research should depend on individual and institutional practices. When viewed from this perspective, allocating priority to research initiatives depends on unique problems encountered by each institution. In sum, each aspect/ dimension has its own unique importance, and that any “importance” placed on research must be based on the “institutional context” in which the given research activity seeks to gain insight and give

- meaning to. The basis of prioritizing research rests on the underlying institutional practices it seeks to clarify, explain, or remedy – specifically the objectives of a given institution; the specific problems each institution faces; the kind of innovations and changes a given institution wishes to introduce; the mission of the institution; the academic programmes they seek to offer; the particular media-mix adopted; and the kinds or models of distance education they seek to offer students.
6. Some respondents (approximately, 13 percent) felt that research should focus on distance learning planning and management. In India, there are currently three types of distance education institutions operating at the level of higher education: 1) national open universities; 2) state open universities; and 3) directorates of distance education of conventional universities. In this system, each institution shares similar and at times overlapping concerns and problems – e.g., establishing higher standards, coordination of activities, staff training, research, course development, to name just a few. Moreover, each institution fully expects to expand its activities by expanding student enrolment. However, due to jurisdictional and bureaucratic overlap, many of these institutions tend to fall short in maintaining quality educational programming for students. As the old saying goes: one can excel at a few things, but one cannot excel at everything. Currently, there is no all-encompassing policy to guide India's educational system at the macro level. As such, when questioned, this group of respondents felt that research on planning and management must have top priority in India at this time. According to these respondents, research studies on organizational models are most important. They also feel that research on student support mechanisms (i.e., home-based support, workplace-based support, institution-based support, study centre-based support, and media-based support) is similarly important.
  7. Some of the respondents (13 percent) placed emphasis on research on staff development. These respondents felt that research needs first to identify various staff categories/ groups that require training, followed by research to formulate effective training strategies and mechanisms to address staff development needs.

### **Issue of Quantitative versus Qualitative Research**

Debate on the merit of quantitative research versus qualitative research is ongoing. Qualitative research is often compared and contrasted to quantitative research. According to Panda and colleagues (1996), both qualitative and quantitative approaches have made significant contributions to research, but it is the qualitative type that can dig more deeply into the independent learning of an isolated distant learner. The fact remains, however, that distance education researchers tend to place more importance to quantitative research, a method that typically provides objective descriptions and comparative measures of “classroom activities.” For example, Saba (2000) observed the dominance of quasi-experimental research in distance education, which compares the effectiveness of distance education to classroom instruction, face-to-face education or traditional education.

The authors of this paper perceive that the pendulum is shifting towards the use of qualitative approaches in distance education research, however. As such, more studies are now being conducted that use qualitative designs and supportive methods. Respondents offered the researcher their views (below) on the merit of quantitative versus qualitative research in distance education.

1. Majority of respondents (around two-thirds) advocated a mixed approach in research, one where quantity gives the figure and quality gives the dimension. According to this group, quantitative studies alone cannot give us the “real” or “whole” picture. They felt researchers need to go beyond quantitative studies, and add elements of qualitative methodologies to their research activities. This group felt that a comprehensive mix of both quantitative and qualitative research methods will yield more reliable research outcomes. According to this group, researchers should not collect only hard statistical data; they also need to observe, synthesize, and report on phenomena in its real context, which in turn will lend meaning to the statistical data collected. In sum, qualitative research methods need to be included in tandem with quantitative research methods at the research design level. This approach will yield research outcomes that support, expand, and thus add credibility and merit to distance education research in its own right.
2. Some respondents (around two-fifths) held the view that the method followed depends on the research problem itself. Both quantitative and qualitative research have their place and importance in research. The research method(s) followed depend upon what kind of research is being considered, and the objectives of the research study. These respondents held the opinion that if the research in question requires qualitative analysis – that method should be used. If it requires quantitative analysis – that method should be used. There is no “prescriptive” solution to research in distance education; instead, these respondents felt the research design should depend on the problems that need answers. According to this perspective, research design and related methods is not an end in itself, but rather a vehicle to arrive at the desired end – the collection of reliable data. In sum, the research design and its evaluative methods should be chosen for its utility to solve a given problem.
3. Few respondents (one-fifth) felt qualitative research should be expanded. These respondents held the opinion that it is not a question of balancing between quantitative and qualitative research; it is a question of initiating and development of research processes. This small group of respondents feels that too much emphasis has been placed on quantitative research in the past, and that a quantitative research “bias” continues to this day. This group feels that quantitative research alone cannot examine or explain all the variables/ characteristics that qualitative research designs can reveal.

### **Enhancing Different Types of Research**

Research may focus on disciplinary, interdisciplinary, and systemic areas. Distance education institutions can play a key role in enhancing and expanding upon different types of research examining distance education and its intended (or unintended) outcomes in a systemic setting. It is in this context that Panda and colleagues (1996), and Ferrer (1999), expressed concern about the controversy between various types of research designs and methods. Nonetheless, Panda et al. (1996) setting aside the controversy between the merit of systemic-research versus discipline-based research in distance training institutions, stressed the hidden and highly utilitarian potential of institutionally sponsored research. Such research can bring tremendous value to a given institution, and the discipline of distance education as a whole. Respondents were asked about the process-issues of enhancing different types of research – disciplinary, interdisciplinary, and systemic research. Respondents offered the following views on this topic:

1. Open universities should not necessarily depend on conventional universities for distance education research, because they are engaged in the world of “discipline-based” research. Open universities are in a unique position to examine the systemic nature of the

“modality” in which they operate and “do business.” This means that the primary goal of an open university department or faculty – even those comprising many different departments – should be to conduct research. They should first aim to generate knowledge in their own discipline be it medicine, law, engineering, the humanities, or education (to name just a few), then relate such research in a distance education context. In short, researchers should seek to breakout of the disciplinary research box and become involved in more “systemic” research. For example, at the Open University UK, researchers and educators are typically engaged in both disciplinary research and systemic research. When undertaking disciplinary research, academics at the Open University UK make forays into the systemic research aspects of distance education system in which they operate and teach. Clearly, such overla' will improve the teaching-learning practices of the distance education system in which the academic/ researcher is working. It is interesting to note, that many respondents also placed emphasis on interdisciplinary research. According to these respondents, research could evolve to become interdisciplinary in nature and design, especially if two or more researchers from different disciplines join together to research a question or topic. Teamwork is key in this equation because individual academics typically do not have the full toolbox of expertise necessary to master multiple disciplines.

2. One respondent expressed disappointment with the amount and quality of interdisciplinary research done in India. This respondent felt that barriers to interdisciplinary research is present in India, and that open universities should work to break down this barrier, and encourage experts in one discipline to cross over and conduct research in other disciplines. In other words, PhD-prepared and even Masters-prepared individuals from one discipline should be encouraged to conduct research in other discipline.

## **Methodology of Research in Distance Education**

“One of the major challenges of researchers in distance education in the future will be to devise methods for conducting research. This involves method of data collection and data analysis that corresponds to the theoretical complexity of the field” (Saba, 2000). Berge and Mrozowski (2001) in reviewing the literature ( $n = 890$  studies) in distance education over a ten-year period from 1990 to 1999, found that 75 percent of the articles and dissertations used a descriptive methodology. In spite of this finding, qualitative techniques are nonetheless evolving and new research methodologies emerging (e.g., transferred from other disciplines). In the studies researched by Berge and Mrozowski, researchers used a variety of techniques for conducting distance education research, incorporating a variety of investigative techniques and few formal experimental or quasi-experimental designs. For example, student self-reporting, (Fulford and Zhang, 1993; Gunawardena, 1995), extensive interviewing of students (McDonald and Gibson, 1998), conversation and discourse analysis (Chen and Willits 1999; Tsui and Ki, 1996; Saba and Shearer, 1994), or a combination of these methods, were often used to collect the necessary data. Furthermore, these studies typically focused on a smaller group of subjects and took a deeper look at the subjects’ verbal and written behaviours. This is an important step in refining research methods specific to distance education, in that they are designed to capture a wider and richer range of data needed to advance the field. With the changing scenario of methodology of research in distance education, respondents engaged in the interviews voiced the following viewpoints on the issue of methodological approaches:

1. There is no substantial difference in the methodologies of conducting research in distance education than in the formal system. It follows the same lock-step process in selection of problem, formulation of a hypothesis and research objectives, formulation of a measurable research question, question formulation, data collection, data testing, data analysis, drawing conclusions, etc. However, in terms of selecting a research sample, the procedure of data collection will automatically change the process. For example, a blank audiocassette could be sent to learners with a questionnaire wherein the learners will be asked to complete the questionnaire by responding the answer in the audiocassette. In sum, this tends to present a different procedure of data collection. Similarly, instead of sending questionnaire via postal mail, the researcher can use the Internet.
2. Since distance education learners are studying in a situation that is typically non-contiguous, application of a qualitative research design and methodologies are likely more appropriate than the application of a quantitative design and methodologies. When research is designed to examine distance students' study habits, learning strategies, learning contexts – and how to improve upon all elements of the system geared to meet the learning needs of distance learners such as course design, development and delivery, and related student support systems – qualitative research methodologies tend to be more appropriate.
3. To enhance inter-disciplinary research, inter-institutional mobility and interactions of researchers, it is necessary to share the uniqueness of specialized perspectives. Researchers can receive feedback from other researchers and vice-versa. Communication technologies are undergoing radical changes for mass data collection and data analysis. Individual researcher can interact with fellow researchers working in other disciplines, any time, any place. To expand the interdisciplinary scope of research, deliberate steps must be taken to integrate researchers and their disciplines – systemic researchers and subject pedagogues alike. The successful convergence of the ideas from related disciplines can enhance the quality of education.

## **Conclusion**

Reviewing the findings of this study, we found that majority of respondents interviewed advocated research on “media and technology” followed by “learners and learning,” and on “evaluation process.” This finding may be explained by the fact that media and technology carry out major parts of curriculum transaction process. Instead of doing comparative study on “media and technology,” respondents tended to advocate focusing on the features of particular media to see how they contribute to learning outcomes. Regarding the issue of quantitative versus qualitative research, the majority of respondents felt that following “mixed approach” was best, and advocated enhancing disciplinary, interdisciplinary, and systemic research. Nevertheless, they also suggested that importance should be placed on interdisciplinary and systemic research. In terms of the methodology of research used in distance education, when questioned, almost all the respondents could not suggest alternate methodologies for research in distance education different from conventional methodologies of research. This finding may stem from respondents' attachment with the conventional system, and as such, they might be looking to conventional universities as the “gold standard” for acceptable norms, credibility, and the role models to which open/ distance education universities should aspire. Indeed, the majority of respondents interviewed had started their career in the formal university system, and most earned their qualifications in the formal system (this is because open/ distance universities are a newer construct). However, very few respondents advocated quantitative research methodologies;

instead, they suggested using tools like student self-reporting, extensive interviewing, conversation and discourse analysis, or a combination of these methods to collect the necessary data.

Communication technologies should also be used for collection and analysis of data. The analysis presented here, while based on a small but arguably highly representative sample of survey of distance education experts working in India, focuses on process-issues for selecting research areas, research design, and methodological approaches used in distance education. The findings and recommendations of this study have limited application; however, significant empirical insights emerged that support research into process-issues. In order to have quantitative data for wider generalization, it is suggested that a quantitative survey research can be undertaken on this topic by taking representative samples from state level institutions, state open universities, distance education researchers, students engaged in distance modes, and students who have already engaged in distance education course(s). "An in-depth, qualitative study can be undertaken to examine select process-issues of research in distance education. Finally, in order to know the underlying or grounded reality, it is similarly suggested that an in-depth case study should be undertaken.

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November – 2004

## ***Book Review – Online Education and Learning Management Systems: Global e-learning in a Scandinavian perspective***

**Editor:** Morten Flate Paulsen (2003). *Online Education and Learning Management Systems: Global e-learning in a Scandinavian perspective*. 337 pages, softcover. Oslo: NKI Forlaget. ISBN: 8 2562 5894 2

**Reviewed by:** Daniel Peraya, TECFA, University of Geneva, Switzerland

Morten Flate Paulsen has been working in the field of distance and online education for many years. During the last 15 to 20 years, the author has been particularly active in developing online education projects, and is considered a pioneer in this field. The author brings this book his rich background in e-learning, much of which was gained while working at the NKI College at Bekkestua, Oslo, Norway. The book captures his experiences, discusses major developments in online education, and provides illustrative examples from the author's Scandinavian and international research. Paulsen also invited other Scandinavian-based pioneers, Søren Nipper (Denmark) and Carl Holmberg (Sweden), to contribute their personal experiences grounded within their particular national contexts. Paulsen has adopted an original approach with his book, one that mixes a theoretical framework, anecdotes, with personal experiences. This approach makes the book really "interesting and enjoyable" as the outside back cover says, an assertion that I fully agree is true. I also located three online reviews written on Dr. Paulsen's book: one by Desmond Keegan (Dublin, Ireland)<sup>1</sup> who considers it is a major book; another by Christian Dalsgaard (Aarhus, Denmark)<sup>2</sup> who maintains "The book provides an important promotion of Nordic online education and a significant contribution to the international field;" and Kjell Å Bringsrud (Oslo, Norway)<sup>3</sup> who highly recommends it. After reading the book, I too agree with these previous reviewers that Paulsen's book will be of great interest for: "students, teachers, course designers, administrators, decision makers and educational officers in public and private sectors" (p. 17). My only concern is that researchers seem to have been neglected in the book's target audience – but perhaps this editorial viewpoint may also be interpreted as an indicator of the pragmatic, practice-oriented approach developed by the author in compiling and writing this book.

Professor Paulsen's book is comprised of four parts:

1. Online Education, Teaching and Learning
2. Commercial and Self-Developed LMS
3. Global e-Learning in a Nordic perspective
4. Trends and Future Developments

## **Part One – Online Education, Teaching and Learning**

Part One examines pedagogical issues, and introduces and discusses the main theoretical views, concepts, terms, and methods used in the field. Since most of these terms and concepts are vague and without clear or explicit definition, this book may be viewed as a good attempt at providing readers a systematic understanding of the online education field. The author presents and discusses several issues related to an online educational system: the tutor's functions and roles, facilitation techniques, assignments, assessment, grading, motivation and problems encountered by teachers and students online, along with the pragmatic realities of increased workload for those teaching online, and how to best to manage this workload. Organizational, social, and cognitive aspects are also taken into account and valuable recommendations are offered.

Four classifications that outline “Online Teaching Methods” provide the book a thread of coherence that binds together the various chapters. The methods are organized according the four communication paradigms used in computer-mediated communication” (p. 92). According to this classification, “teaching methods” are: 1) the online resource paradigm (one-online); 2) the email paradigm (one-to-one); 3) the bulletin board paradigm (one-to-many); and 4) the conferencing paradigm (many-to-many). The author then goes on to distinguish two other categories: “teaching techniques” and “teaching devices.” In this context, Paulsen defines a teaching technique as a “. . . manner of accomplishing teaching objectives. The “teaching techniques” of online database, interviews, correspondence studies, lectures, debates, discussions, etc., are presented and discussed in detail in the chapter “Online Teaching Techniques” (p. 85 – 131). This chapter, which includes references to the literature of notable academics such as Harasim, Rekkedal, Paulsen and Kaye, reports the experiences of 150 online teachers interviewed on their teaching techniques.

The teaching devices used are based on Rapoport's classification that identified the four main paradigms: information retrieval system, email, bulletin board systems (BBS), and computer mediated communication (CMC). However, I also believe this approach also reveals the key weakness of this book: Communication concepts and theory can be extremely valuable in analysing educational mediated communication, but what we still need a very strong link between technology, educational, and communication sciences. Indeed, the framework of reference used by the author depends on both the “technological point of view” and “an empirical approach,” which are subsequently reinforced by “interviews of teachers.” One might argue that several techniques could share different research methods, and that teaching devices could support several techniques and research methods upon which to base their analysis, and that the proposed classification will yield very rich data which in turn will help practitioners, teachers, course designers, etc., arrive at fully informed decisions. However, what is lacking – at least from my perspective as a researcher concerned with conducting research premised on clearly defined research questions, techniques, methods, and analysis – is a better theoretical base that provides an explanation of “why” the choices were adopted and “why” the results were reached. With a more in-depth focus on the cognitive tools used, I believe that this book could have better described, and thus helped readers more clearly understand, and in greater differentiated detail, the cognitive and social role of learning management systems (LMS), and the impact of technological artefacts on the learning process. My demand for a better theoretical framework is not base on a researcher's fantasy world: results teased out a sound theoretical approach to data collection and analysis are essential to both direct practice and identify indicators that will lead to a better evaluation of the learning environment.

## Part Two – Commercial and Self-Developed Systems

Part Two offers readers a broad overview of two European-based projects: CISAER (*Leonardo da Vinci program*) and Web-edu. Based on results of the CISAER program, the author provides recommendations to politicians, educational administrators, and online educators who seek to succeed in the field of online education. The Web-edu project, on the other hand, which aimed to analyze the European experiences with Learning Management System (LMS), yielded a surprising conclusion: the most widely used LMS in Europe were developed in North America (e.g., *Blackboard*, *WebCT*, *FirstClass*, *Lotus Learning Space*), yet the European market is not dominated by American LMS systems. In countries where English is NOT the native language – in this case, the Scandinavian countries – viable local systems have been developed and these LMSs appear to be highly effective and successful.

## Part Three – Global e-Learning in a Nordic Perspective

Part Three's first chapter entitled, "Global e-learning in a Nordic perspective," presents the results and recommendations drawn from the Web-edu project. Based on the Nordic analysis, which comprised part of the Web-edu project, this chapter shows that the Nordic countries – Denmark, Finland, Iceland, Norway, and Sweden – are widely recognized as pioneers and advanced users of ICT. Indeed, the Nordic countries have been actively working for many years now on large-scale national projects aimed at developing technology-based education to better serve its population of approximately 23 million people. Moreover, these efforts have been underpinned by a very real, very strong political will. As such, Part Three offers readers advice, recommendations, and guidelines that could be used to inform our own LMS projects, course creation tools, student and tutor supporting tools, administration, technology, economic issues, evaluation, and the future of LMS systems in general. The main findings outlined in this chapter indicate a clear trend towards implementation of large-scale online education, the effort of the Nordic universities to standardize their national student management systems, and interviewees' opinions that e-learning standards are important to their institutions.

Part Three also comprises chapters focusing on Denmark's experience written by Søren Nipper, and on Sweden's experience by Carl Holmberg. Nipper introduces an interesting debate on "Instructional Design" and "Collaborative Learning," identified as the two main trends in the information and communication technology (ICT) fields. Nipper explains why Collaborative Learning has emerged in the Danish context during the first 10 to 15 years of experimentation – however, astonishingly he says it is "a collaborative programme seems to be much faster and many times less expensive than the development of a computer-based technology/ Web-based technology (CBT/WBT) course" (p. 221) and it is adapted for small groups. Collaborative Learning, on the other hand, in terms of its design, is less effective for the management of learning organisations because it does not embed content creation tools and because "it scales so badly" (pp. 223-224). For these reasons, interest in LMS has grown, particularly in those LMS and content management systems that include tools for online assessment, evaluation and scoring, production and the monitoring of learning activities, and the management of student data. In the Danish context, times are changing and LMS (mainly based on instructional design) are moving out the old-fashioned "Collaborative Learning" model based on computer-mediated communication. This finding raises several very important questions: Whether *Instructional Design* will seize the future of online learning and whether *Collaborative Design* will lose momentum and gradually be confined to a small cosy, privileged academic corner at the periphery of e-learning? (p. 222). Can collaborative learning happen in a large-scale e-learning

system? And more generally: How will universities handle, on one hand, the clash between business rationale, and on the other, pedagogical autonomy and flexibility? (p. 226).

The Holmberg's chapter presents the Swedish context: policies, experimentations, pilot-projects, results and barriers, and so on. I found Holmberg's chapter interesting because he reminds us of several basic principles that could make innovation and information and communication technology (ICT) in schools sustainable. First of all, Holmberg's focus is not on new technology itself; instead he reminds us that technology should merely contribute to new vision on learning and on *how students actually learn*. He also shows us that the development of ICT on a national level requires a clear policy formulation, financial support, and the technological means to make it happen. Just as significantly, it requires the right mix of human resources to support the national ICT policy. For instance, the Swedish Government allocated €200 million for the four year (1999-2002) project "IT in school." The Swedish project demonstrates that the ways in which schools are organized, and the manner in which learners appear to have to been deeply changed. Following the work of Laurillard, it shows us that we need to completely "rethink" the role of schools, high schools, and universities in terms of online and e-education. Finally, Holmberg reminds us that costs still remains one of the most important barriers. Education needs to be a high quality service; however, we will have to pay.

Part Three concludes with a comparison between Scandinavian and Australian universities. The major difference found between these countries is that in Australia education is considered as an important export industry, while in Sweden and Norway the export of education is not an important market consideration, and thus not an objective of these nations' universities.

## **Part Four – Trends and Future Developments**

Part Four – *Trends and Future Developments* – as its title suggests, presents the main trends and future developments. The author first discusses the results of the Web-edu project. The last question of the questionnaire addresses this issue. Interviewees cited as important the interoperability and integration between all the available online tools, flexibility, standardization, cost-effectiveness, better content management and management, simpler and user-friendlier solutions, etc. Paulson then underlines the major developments in the field during the past decade, and discusses important trends in online education, namely: large-scale online education, standardization, cost-effectiveness, and market constraints, m-learning (mobile learning), and increased bandwidth capacity that will allow for more multimedia abilities, and finally, globalization.

In conclusion, this book provides a clear view of the field of online education and a general framework to help us understand and grasp the main trends taking place in the field, particularly as based on data derived from the Scandinavian context – a perspective little known by the public at large. This approach has merit. From my perspective as a Francophone researcher located in Switzerland, however, I tend to focus more on the theoretical framework and research methods used, and this from this "context" that I express my gut feelings that this book seems to be too "pragmatic" and not targeted towards the needs of researchers. Nonetheless, the results drawn from the European projects are interesting and worth reading. But still, my concern is that the questionnaires and interviews were the only sources. Questionnaires show us what people say about their thoughts and practice; however, as a researcher, I would have been more interested in reading a deeper analysis of their real practice. For example, by comparing and cross-referencing the data (interviews and observations of practice) would have more finely shaded the book's "findings" or perhaps even yielded "different" conclusions altogether. Despite these

shortcomings (at least from my perspective as a researcher), Paulsen's book offers readers a very rich and interesting findings, all of which are bound within a lucid and attractive layout. As such, I will give this book to my students to read this coming term.

### **Endnotes**

1. [http://www.studymmentor.com/studymmentor/Review\\_by\\_Keegan.htm](http://www.studymmentor.com/studymmentor/Review_by_Keegan.htm)

2. <http://www.lib.msu.edu/corby/reviews/posted/paulsen.htm>

3. [http://www.eurodl.org/materials/briefs/2004/morten\\_review.htm](http://www.eurodl.org/materials/briefs/2004/morten_review.htm)



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November – 2004

## ***Book Review – Papers and Debates on the Economics and Costs of Distance and Online Learning***

**Editor:** Greville Rumble (2004). *Papers and Debates on the Economics and Costs of Distance and Online Learning*. 191 pages, softcover. Oldenburg, Germany: Oldenburg: Bibliotheks- und Informationssystem der Carl von Ossietzky University. ISBN: 3 8142 0886 2

**Reviewed by:** Alaa Sadik, South Valley University, Egypt

In the last few years, learners' and parents' interests in distance education were enhanced dramatically as a result of changes in society and advances in audio-visual media and telecommunication technology, which in turn resulted in an increase in both access and the subject areas offered by distance education institutions. In response to this interest, distance education has become one of the formal means of education for those who are unable to attend traditional campus due to cultural, economic, physical, or geographical obstacles.

The Internet, and the World Wide Web in particular, with its interactive tools, user-friendly interface and rich information resources, have become the most promising mediums for future distance education programs. However, the main assumption that encourages distance educators to use a new technology, like the Internet, is to reach a wider population of learners with significant cost savings.

This book provides us with a significant body of research to further our understanding about the cost-effectiveness of distance education and online learning. It assembles some of the most important papers and debates on the economics and costs of distance and online learning written by Greville Rumble over the past 20 years. The book is organized into three major parts:

1. Economics of mass distance education
2. The competitive vulnerability of distance teaching universities' debate
3. The economics of e-learning.

The first part contains three papers. In the first paper, “The economics of mass distance education,” Rumble focuses on the factors affecting the costs of developing, producing and distributing course materials, and the costs of student support, and the influence the breadth of the curriculum relative to the number of students enrolled has on costs. In addition, this paper seeks to indicate why some of the expectations of cost-efficiency can be dashed.

In the second paper “Technology, distance education and cost,” Rumble concluded that it is unlikely that any cost saving can be made from shifting to the Internet to deliver instruction. Whereas the design and development costs of textual/ highly interactive and quality on-line materials are more less or similar to those of print/interactive CD-ROMs, the range of variable and recurrent costs of maintaining the online course materials, supporting, assessing and administering students online, running and connecting the Web-server and access to the Internet by students, can add more tuition and administration workload and contribute significantly to overall costs of online learning.

The third paper, “The effect of employment practices on the costs of flexible and distance learning,” identifies certain trends in the labour market and applies them to distance education. He suggests that distance education lends itself to a situation in which capital replaces labour, resulting in increased productivity; tasks which were previously regarded as a part of a single academic job and now are divided up among different workers.

The second part of the book contains six papers written around the debate on the competitive vulnerability of the distance teaching universities. Three were written by Rumble and the others are a response to Rumble's papers with the aim of debating his views. Rumble's intention here is to stir the “deans of the cathedral” out of their self-contented slumber and awaken them to the arising competition from campus-based universities that were finding it cost-efficient to branch out into resource-based teaching, which would be eventually set-up in their distance-teaching wings.

The third part of the book focuses on the costs of online education. This part, which contains four papers, seeks not only to identify the actual costs of e-education, but also to look at some of the policy issues that they arise. Rumble starts this part by identifying the mean of an e-education system. He suggests that an e-education system:

- Makes learning materials available to students in electronic format
- Teaches and support students online
- Provides online administrative services – e.g., enrolment, billing, information and advice

Rumble then discussed the reasons behind the widespread pressure to move towards e-education—from distance educators, from those working in campus settings, from trainers, and from new entrant firms. He noted that although the pressures to go electronic are clear, the associated costs are not that clear. He begins by identifying a methodology for costing e-education and estimating at the costs of the technologies, distinguishing between the costs of putting materials online, the costs e-teaching, the costs of e-administration, and finally comparing the costs of e-education with the costs of alternative approaches to distance education.

The author concluded that “if we broaden the definition of online teaching to encompass a fully fledged e-education system, then there are savings to be achieved, both within campus-based and within existing distance teaching institutions. These savings will be made in administration” (p. 133).

The second paper in this part goes further by emphasizing the importance of understanding the e-education system being “costed” so that the elements are not missed. Using a functional approach, Rumble looked at the costs of online learning and distinguished between the costs of

developing e-materials, teaching students online, accessing the website, administrating students online, and providing infrastructure and support within which e-education can operate. Specifically, by comparing online to other alternative approaches, the third paper sheds light on the costs of teaching and students support services in e-education systems.

The book ends by a compromising and general article titled “Just how relevant is e-education to global education needs?” In this article, Rumble arrives at the conclusions that he has little doubt that e-education:

“ . . . has enabled distance educators and others to improve the quality of the dialogue available to students, and often to provide them with a richer spectrum of materials . . . ”

“ . . . is more costly than first and second generation distance education, but I also suspect that it may prove to be more costly than traditional education” (p. 181).

The analysis of the cost structure and cost relationships of e-learning in this book shows that it is not possible to conclude that shifting to the Internet is always less costly than other approaches (e.g., print and CD-ROMs). However, the costs resulting from using the Internet to deliver instruction are influenced by many design and implementation-related factors, such as the purpose of the distance education programme, the objectives of learning, the pedagogical approach, the quality of learning materials, the lifetime of the course and enrolments.

Overall, the author attempted to prove that it is unlikely that any cost saving can be realized from shifting to the Internet to deliver instruction. Whereas the design and development costs of textual/ highly interactive and quality online materials are more less or similar to those of print/ interactive CD-ROMs, the range of variable and recurrent costs of maintaining the online course materials, supporting, assessing and administering students online, running and connecting the Web server, and access to the Internet by students, can increase tuition, increase administration workload, and contribute significantly to overall costs of online learning. In other words, instead of bringing the costs of tuition and delivery down using inexpensive technology, online learning systems add more costs to the additional institutional and access costs.

However, if there is a necessity to exploit the two-way interactive nature of the Web, as well as speed, flexibility and global access to the Internet - particularly in developing countries - these costs must be factored in the design of instruction, and taken into account for budgeting and enrolment purposes, particularly when comparative cost-benefit analysis between Web-based learning and other approaches are conducted.

Finally, there is no doubt that these well-chosen and edited papers allow interesting historical perspectives in the economics of e-education, and address its actual impact on the traditional cost structure of distance education. I found several aspects of this book appealing and believe that many distance and on-campus educators, and those charged with costing and implementing such systems, will find this book quite helpful.



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November – 2004

## ***Book Review – Theory and Practice of Online Learning***

**Editors:** Terry Anderson and Fathi Elloumi (2004). *Theory and Practice of Online Learning*. Online for no-charge at [http://cde.athabasca.ca/online\\_book](http://cde.athabasca.ca/online_book)) Pages 421, softcover. Athabasca University Press. ISBN: 0 9197 3759 5 Pages: 421. The online version is free; the printed book can be purchased for CDN \$ 50

**Review by:** Morten Flate Paulsen, NKI Distance Education, Oslo, Norway

When I was asked to review this book for IRRODL, I was hesitant for several reasons. First, it is an awesome challenge to review this comprehensive book, one that covers such a broad range of themes. More problematic, however, were the relations between IRRODL, the book, Athabasca University (AU), and myself. So, the readers should be aware that IRRODL's editor Terry Anderson is one of the book editors and that I am an associated professor at AU, the institution that hosts IRRODL and published the book. I, however, have never visited AU; my association has been purely online. Finally, I decided to write the review for two reasons. First, I could draw on my in-depth knowledge of NKI Distance Education, which in many ways faces the same challenges as AU. Second, I could provide some additional insights by comparing it with my current book *Online Education and Learning Management Systems – Global E-learning in Scandinavian Perspective*. In addition to several common topics, both books are available in printed and electronic versions. They also have accompanying websites.

### **Printed and Electronic Version**

The book under review – the Theory and Practice of Online Learning – is provided as open source material, free to all who visits the website. This is a bold move by a publisher, as usually only some of the content is made available online. The question remains, however, is the free electronic version effective promotion of the printed (\$50 Canadian dollars) book, or does it reduce its status and credibility as a high quality publication? Well, according to my sources, seven months after publication the electronic version had been downloaded nearly 30,000 times and the printed version had sold a few hundred copies.

The book's website ([http://cde.athabasca.ca/online\\_book](http://cde.athabasca.ca/online_book)) is well designed. I found it attractive and user friendly. The book's website does provide a discussion forum, but I expected it to include some additional services such as the online resources and multimedia material that are available at my book's website ([www.studymentor.com](http://www.studymentor.com)).

The electronic book can be downloaded as one 1.8MB pdf-file. Individual chapters can also be accessed online in html format. The electronic book is superior for text search and electronic annotations. However, the book does not utilize the opportunities the pdf-format provides for colors, active links to Web addresses, and internal links for convenient navigation in the book. I

was, for example, surprised to see that the table of content did not have links to the corresponding articles. (**Editor's Note:** Since this review was completed, major improvements, including HTML cross linking, have been added to the book's webpage. Terry Anderson, November 2004)

Since I have convenient access to a high-speed printer, which can print color on both sides of the paper, I read a self-printed version first. Later, when I got hold of the commercial book, I realized that they were almost identical. However, my homemade copy had larger pages and letters that some may find easier to read.

The *Table of Contents* does not provide a good overview of the 421-page book; it only lists the titles of the sixteen articles. The book also lacks indexes, abstracts, lists of figures, tables and summaries. It would also be easier to get an overview of the material if the articles used more than one level of headings. The only help the reader has in the quest of obtaining an overview of the book's content is the *Book Organization* section in the introduction. I did expect to find more tools in both the printed and the electronic versions to help me navigate in this comprehensive book.

## The Content

The book includes four parts and sixteen articles. It is a collection of quality articles written by 22 present and former faculty members at AU. This is an interesting and unique approach. Since all authors have a common point of reference at AU, the book probably covers most of the important activities at that university and thereby gives a unique insight in a leading online education institution that focuses on individualized study progression. The book also represents a major publication that AU should be proud of.

The book title testifies that the book is written by practitioners with a sound hands-on knowledge of online education practice. The title also testifies that the articles are based on a broad and thorough knowledge of online education theory. However, the book covers many educational topics in addition to learning, so a more appropriate title would be *Theory and Practice of Online Education*.

## The First Part

Part 1 - *Role and Function of Theory in Online Education Development and Delivery* - includes three articles that provide the theoretical foundation for the book. This is the most theoretical and demanding part of the book.

In Chapter 1, *Foundation of Educational Theory for Online Learning*, Mohamed Ally focuses on the behaviorist, cognitivist, and constructivist schools of learning and their implications for online learning. In addition to these important perspectives, I would have liked to see more references to adult and distance education theories.

In Chapter 2, *Toward a Theory of Online Learning*, Terry Anderson looks at learning theory in general and focuses on interesting attributes of online learning. Anderson claims that quality online learning will be knowledge, community, assessment, and learning centered. He further presents a model of e-learning based on students, teachers, and six forms of interaction between them and the content. The theory emphasizes that collaborative and independent study modes are the two predominant forms of online education. In my opinion, the independent study mode has a

large potential for improvement and deserves further development as I have done in my theory of *Cooperative Freedom* (Paulsen, 2003). Finally, the author reveals so much confidence in a future semantic Web that he claims it is premature to define a particular theory of online learning.

Chapter 3, *Value Chain Analysis: A Strategic Approach to Online Learning* is written by Fathi Elloumi. One of my main concerns regarding online education is the lack of cost effectiveness and sustainability, which I discuss in *Online Education Obituaries* as that goal.

## The Second Part

Part 2 - *Infrastructure and Support for Content Development* - presents three chapters that focus on systems and technologies that can support online education.

Chapter 4, *Developing an Infrastructure for Online Learning* management system, student information systems, and user portals, are discussed superficially. These pivotal issues deserve to be discussed in more detail, especially since they are not addressed in separate articles. The book barely touches upon crucial issues such as the integration of LMS and SIS systems, and the lack of system overview that often is the result of using more than one LMS system. The last part of the article discusses various aspects of change management. This is important since online learning technology and expectations evolve rapidly and unexpectedly.

Chapter 5, *Technologies of Online Learning*, is an informative and up-to-date article by Rory McGreal and Michael Elliot. It examines many of the newer Web technologies that have interesting educational implications. The only technology I really missed was blogs. The technologies discussed include multimedia, streaming audio and video, push technologies and data channels, audio chat and voice over Internet, Web whiteboarding, instant messaging, hand-held and wireless technologies, peer-to-peer file sharing, and learning objects. All technologies are backed up by suggested educational use and a number of recommended links for further information. I found this article especially interesting because it inspired me to consider how we could use these technologies effectively in future online education.

In Chapter 6, *Media Characteristics and Online Learning Technology* on these two technologies especially, since we utilize them in NKI's accessibility projects (Paulsen, 2003, p. 312).

## The Third Part

Part 3 - *Design and Development of Online Courses* comprises four articles. Each chapter in the Third Part are interesting as “individual” articles, but they do not work well together, particularly if the intention was to cover the field of design and development of online courses. Towards that aim, the articles are not well coordinated and this part misses several issues of importance to course development.

Chapter 7, *The Development of Online Courses*, is authored by Dean Caplan. The most useful and interesting part of this article is the discussion of course development teams. Caplan's article states that it is not reasonable to believe that just one or two people can create a high caliber online course. A course development team is perceived as beneficial and the core of a development team should include several key roles: subject matter expert, instructional designer, Web developer, graphic designer, programmer, and multimedia designer. Each role is discussed, including practical information about typical tasks and much used software applications.

Chapter 8, *Developing Team Skills and Accomplishing Team Projects Online*, starts to claim that the primary weakness attributed to distance education at the MBA or professional education level has been in the teaching of team or leadership aspects. The authors, Deborah C. Hurst and Janice Thomas, present a lengthy article focusing on the experiences from three cases in which they provide examples of team training, team dynamics, and project work in online environments.

As I see it, the first case is the most interesting. It provides an in-dept presentation of a course on team dynamics and communication. The first phase of the course provides a CD-based simulation that the students complete independently. The setting is a “forest fire,” in which the learners are members of a team charged with the responsibility of repairing a damaged communication tower in the area. The second phase of the course builds on the CD-simulation by establishing online teams assigned with the task of getting the group and the equipment back safely. It is against this background that this chapter's authors, Hurst and Thomas, provide useful and practical tools such as a chat protocol and an impressive team charter developed by one of the groups.

The second case presents the experiences from an online research team, and the third case describes the experiences with online group assignments in MBA classes. The authors conclude that their experiences convince them that these skills (which I understand as team building and working effectively in projects and groups) are teachable and transferable in an online world. It worries me, however, that it is still necessary to emphasize this fact twenty years after Andrew Feenberg presented his experiences with executive education at the Western Behavioral Sciences Institute (WBSI).

In Chapter 9, *Copyright issues in Online Courses*, Lori-Ann Claerhout gives an in-depth and interesting Canadian overview of copyright issues and laws, as well as guidelines for online education. It also provides a useful and practical description on AU copyright policy and practice. Even though other nations and types of institutions may face different challenges, the various samples of copyright documents provided could be useful for many.

Chapter 10, *Value Added - The Editor in Design and Development of Online Courses* by Jan Thiessen and Vince Ambrock, is primarily a descriptive article that discusses the editors' role in course design and delivery at the AU School of Business, where the editors are titled MIDE - Multimedia Instructional Design Editor. They are key members of the school's online course design, development, and production teams. They add value to the courses by improving course material quality, enhancing students' learning experiences, and ensuring that course quality standards are set and maintained for the delivering institution. This article relates strongly, however, to chapter 7 and as such they should have been located together.

## **The Fourth Part**

Part 4 - *Delivery, Quality Control, and Student Support of Online Courses* - is comprised of six chapters that discuss very diverse topics.

Chapter 11, *Teaching in an Online Context*, by Terry Anderson is a fine and interesting article that focuses on teaching functions. This article shares many similarities with my own writing (Paulsen, 2003, p. 53). It presents a model for a community of learning, which claims that meaningful online learning occurs when there is sufficient social, cognitive, and teaching presence available. It also distinguishes between two fundamentally different models of online education: the model of community of learning and the model of independent learners. In my

opinion, this article should be included in Part 1, since it provides some of the theoretical foundation and models that are lacking in Part 1.

Chapter 12, *Call Centers in Distance Education*, is an interesting and useful article written by Andrew Woudstra, Colleen Huber, and Kerri Michalczuk. It states that educational call centers could be used for both outgoing and ingoing calls ranging from provision of information to prospective students, fundraising, collection of survey data, and even instructional services. This article discusses call center organization, critical success factors and Web and ICT solutions to support the work. It further explains AU's experiences and potential developments with call centers. After reading the article, I wonder if the call center approach should be used more for online teaching. At least many institutions could learn from the AU experiences.

Chapter 13, *Supporting Asynchronous Discussions among Online Learners*, is written by Joram Ngwenya, David Annand, and Eric Wang. This article sets out that Web-based courses generally consist of cohort students who proceed through the course at about the same pace. This is reflected in LMS systems that usually adhere to a cohort-based learning model, and in a research focus on cohort-based learning experiences. In my opinion, there is a great need for - and potential in - LMS systems and research that focus on courses for individualized pacing. This article describes some of AU's experiences from the use of a self-developed prototype learning system (ASKS) developed for learning with individualized pacing. The system is based on a “gating strategy” which creates online cohorts that are not based on a rigid schedule of submission deadlines, but rather on students' place in the course. I believe this is an important initiative, which I would like to see further investigated at AU and elsewhere.

Chapter 14, *Library Support for Online Learners*, by Kay Johnson, Houda Trabelsi, and Tony Tin is an interesting, informative, and thorough article that discusses what e-learners need from libraries and what libraries can do to adapt to online environments.

In Chapter 15, *Supporting the Online Learner*, Judith A. Hughes presents a sound and comprehensive set of support services that should be considered in online education. Among the services discussed are administrative support, technical support, study skills assistance, educational counseling, program advising, library services, accessibility for students with disabilities, ombud services, student unions, and monitoring of learner satisfaction. Personally, I was intrigued by the brief listing of resources that could be developed for improving study skills. And I really would like to read more about “web pages designed to assist in the development of time management and study schedules” and “tools for facilitating study buddy connections for peer assistance.” Both issues go right into the heart of AU's model of individualized online education. At NKI, we have also recently developed and introduced a tool for individual progression plans, which could provide a major competitive impact for our online services.

Chapter 16, *The Quality Dilemma in Online Education*, is authored by Nancy K. Parker. It is an interesting and thorough article that suggests that the watchwords for students, institutions, and public agencies should be “buyers beware.” It points to a long-standing conflict in values between business modeling and public services, and discusses the regulatory frameworks for quality assurance in Australia, the United Kingdom, Canada, and the United States. Even though this is interesting reading, my impression is that these regulatory frameworks are better suited to avoid inferior quality offerings from traditional universities than to improve practices at experienced online education institutions. The appendix includes several useful quality guidelines, consumer guides, benchmarks, and best practices.

## Conclusions

This is a special book since all articles draw on experiences from Athabasca University. The approach provides a deeper understanding of one successful institution that we all can learn something from. It is also a comprehensive collection of articles that covers more aspects of online education than most of the books I have read. However, I still perceive the book as a collection of related articles, and I think the editors should have made additional efforts to present a more cohesive book.

I perceive Athabasca University as an interesting case, first and foremost because we can learn from how the institution handles flexibility. In his *Foreword*, Dominique Abrioux emphasizes the flexibility of allowing students to start on the first day of any month, progress at their own pace, and submit assignments and sit examinations at times determined by themselves. This is an extremely important strategic choice, which in my opinion also has been essential to NKI Distance Education's success.

After reading the book, I still want to learn more about the views and experiences from Athabasca University. What are their thoughts on e-standards? What are their experiences with online marketing? What about cost effectiveness? What do they see as the most important trends for the future? I also wonder why there were so few references to research conducted at AU. As I see it, AU is an ideal arena for research on administrative, pedagogical, and economic issues related to online education especially since the institution has a large number of online students and competent faculties in the Master of Business Administration and the Master of Distance Education programs.

Finally, on behalf of the readers, I would say a loud and clear *Thank You* to Athabasca University for sharing this interesting, useful, and comprehensive book as a free online resource to everyone who is interested in online education.

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November – 2004

## **Technical Evaluation Report**

# ***36. Advanced Accessibility Features for Inclusive Distance Education***

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### **Abstract**

Report #32 in this series has considered the special attention required to make online collaborative tools fully accessible. The particular challenge for software developers is to optimize the accessibility of online education for persons with disabilities. In the process, the software's efficiency for all users is likely to be increased. The current paper expands on Report #32, by the same author, in reviewing specific software products that are rising to the online accessibility challenge: *Allen eC*, *iCommunicator*, and *OpenCampus*.

### **Introduction**

Vanderheiden, Harkins, and Barnicle (2002) indicate that accessibility incorporates the ability to use online content without vision, without hearing, without pointing or manipulation, and without speech by persons with cognitive limitations, with language disabilities, with low vision and limited or no hearing, and with alternative languages. While many distance education programs incorporate website accessibility according to World Wide Web Consortium (W3C) and other website standards, few offer advanced accessibility features. Real-time simultaneous interactions, such as chat, can have many applications in distance education, but finding programs offering full accessibility for a variety of disabilities is problematic. The ideal interface would provide for simultaneous speech and text interaction, as well as specific disability accommodations. Providing real-time, simultaneous translation of speech to a form appropriate for persons with hearing difficulties (whether sign language, lip-reading, or text), concurrent with real-time simultaneous translation of text to a form appropriate for persons with visual difficulties (whether audio or Braille), remains a fundamental barrier to inclusive distance education.

Zimmerman, Vanderheiden, and Gilman (2001) of the Trace Research and Development Center at the University of Wisconsin outline what they see as the need for “translation services” to accommodate the widest variety of user needs. These needs include permanent functional limitations such as visual, hearing and cognitive impairments; temporary functional limitations relating to a particular situation (e.g., a factory worker who cannot hear due to a noisy environment); limitations created by the use of handheld and wireless Internet devices with

restricted input/ output capabilities; and limitations created by the need to communicate in a non-native language. The modalities they identify to meet these needs include:

#### Text-to-speech translation

- Speech-to-text translation
- Speech-to-sign language translation
- Language translation from one international language to another
- Language and cognitive level translation to reframe material into a higher/lower literacy level while maintaining the same meaning
- Automated image and video description to make graphics and video comprehensible to an individual who cannot access them directly, due to a physical or situational impediment

Zimmerman Vanderheiden, and Gilman (2001) foresee a triple tier of services beginning with local automated services such as those found in hardware or software on an individual's computer, and evolving to advanced services at the network level, and to personalized access including human assistance. If services at one level do not supply a user's needs, the individual would access those at the next level until their needs are met. Hellstrom, speaking at the Federal Communications Commission Solutions Summit on VOIP (2004), outlines a similar concept which he terms "total conversation": a single, affordable interface permitting varied combinations of voice, text and video, to meet the needs of the participants in real time. The interface would include interoperability with a variety of personal communication services.

The current report reviews three programs that incorporate advanced accessibility features. Two utilize Voice-over-IP (VOIP), while the other (*iCommunicator*) plans to incorporate its use within the next year. VOIP may provide an effective medium for incorporating audio, text and video, allowing the creation of integrated communication tools that feature speech, text, language translation, captioning, speech recognition, and speech synthesis from text, with the potential to lower long distance telephone access charges. Other advanced accessibility features include compatibility with screen reader and Braille display technology. (For a review of another VOIP program with some accessibility features, *iVocalize*, see Report #32 in this series.)

## Product Trials

### 1. *Allan eC*

*Allan eC* (All Languages Electronic Conversation). Produced by the Swedish company, Omnitor, *Allan eC* is a multifunctional computer add-on kit designed to provide an accessible online communication tool for persons with hearing, speech, or visual difficulties, and to accommodate a range of learning disabilities. The product provides a real-time, simultaneous video, text, and voice tool incorporating audio chat, text chat, video chat, speech to video lip-reading, and speech-to-sign language translation via video telephony relay service (VTRS). The program is compatible with multi-party meeting systems and the text portion of conversations may be recorded for later review. By coupling hardware and software with access to human sign language translators, *Allan eC* comes close to demonstrating the three-tier access system described by Zimmerman et al. (2001).

Minimum requirements include a Pentium III 800 MHz, *Windows/98* or higher, an available PCI slot for video capture card, a sound card, speaker for optional alert signal, COM ports for optional alerting adapter, COM port for optional text telephone, broadband Internet connection at greater than 200 kb in both directions, support for *DirectX* v.8.0 or higher, graphics resolution with at least 65K colors, firewall/ router that accommodates SIP calls (Session Initiation Protocol) for Internet conferencing, telephony, and instant messaging. Participants choose the communication features they need, with combinations such as speech from one participant, translated into sign language for another who replies via text. Additional optional features include compatibility with Braille display, speech synthesis software, text Internet telephony, and audio and/ or flashing light alerting system. Several kit combinations offer a webcam, PCI-card for video capture, headset, alerting system adapter, external modem for text telephony, user manual, and software. A special model is available with extra high resolution images. Combined with a large screen, 2 mb/s connection and a computer with 4 GHz processing speed, the program can accommodate up to eight persons at one site for sign language, or 12 for voice-only calls.

For persons with visual difficulties, *Allan eC* is compatible with *Zoomtext*. The *SuperNova* reader magnifier is recommended for complete accessibility. The vendor states that the program should be compatible with other screen readers, but this, apparently, has not been tested. The speech synthesis within the program is provided by add-on screen reader software. The program has been specifically tested with *Infovox* in *SuperNova* in relation to user interface and text conversation. Using the in-built features of *Allan eC* with add-on screen reader software would therefore allow a hearing-disabled person to type in a conversation that could be synthesized into speech for a person with a visual difficulty. Multi-language features include controls in English, Swedish and Norwegian. *Windows* multi-language options are supported. The software does not provide cross-platform access for *MacIntosh*, *Unix* or *Linux* users. *Allan eC* can accommodate *NetMeeting* in a networked environment, but true application sharing, whiteboard and Web co-browsing are not integrated. Pricing is negotiated by contract for markets outside Sweden.

## ***2. iCommunicator***

*iCommunicator* is presented as a multi-sensory, two-way communication tool for persons with hearing difficulties or other communication challenges. It is an alternative to sign language interpreters as a means to communication with hearing individuals. After participants have created a speech profile, the software provides real-time speech-to-text conversion, and then converts the text to video sign language or a computer-generated voice. Recommended requirements include: a Pentium III, 800 MHz, 1 GHz or better processor, 512 MB RAM (minimum 256 MB), 2 GB hard drive space, parallel port, video card with 8 MB member, 800 x 600 display resolution, *SoundBlaster Pro* compatible sound card, speakers, 24X CDROM drive, *Windows 2000* or higher, a word processing program, and a broadband Internet connection. The professional version with wireless microphone setup retails at \$3,999 US with a standard version (wired microphone) at \$3,689. Pricing for site licensing is currently being formulated.

*Dragon Naturally Speaking* is the accompanying software, and speech recognition software training is required for participants, using a quick training program which can be completed in approximately 30 minutes. Multiple speech/ voice recognition files can be created for an unlimited number of users, and the program can be switched from one user to another in minutes. A user-independent version is anticipated. The program is compatible with the *JAWS* screen reader and with *Windows* accessibility features. Using a "Speak Incoming Words" feature, speech may be converted to a computer-generated voice for output to a cochlear implant speech processor. This feature also has applications for persons with speech difficulties. The video sign

language vocabulary includes finger spelling and over 9,200 signs with adjustable signing speeds. The text size, text box color, and size of the sign language frame, may be adjusted by the user. Multi-language controls are not available for *iCommunicator*, but the vendor plans to offer a variety of languages including the appropriate video sign language. At present, the program does not incorporate online audio chat. Students speak via telephone, and comments or questions by students have to be repeated by the instructor in order to be converted into sign language or computer-generated speech. The vendor plans to incorporate VOIP within the next year.

*iCommunicator* users have the ability to place their own notes in the text chat box. These are visible only on their desktop, and can be recorded along with the rest of the presentation for later review. With the use of an incorporated *iText* tool, students can place content from email, webpages, or documents created in other applications into the *iCommunicator* program, for translation into video sign language or speech. Testing is underway in relation to distance education uses of the product, with the program made available to the instructor and viewable on students' desktops. At present, the program can be used in conjunction with web-based presentations such as *PowerPoint*, using a split screen or, possibly, picture-in-picture. In a live demo session via a broadband connection (dial-up is not supported), browser-based download of the student software took minutes only. The rapid speech-to-text translation was estimated at 95 per cent accuracy. The software was pre-trained for the user. Text-to-sign language translation lagged behind speech translation, but usually appeared within minutes of the text translation.

### **3. Open Campus 4.0**

**Open Campus 4.0** is software designed to provide accessible desktop lectures and live online meetings via one- or two-way VOIP or conventional telephone. The program can handle live audio and video chat, an interactive whiteboard, application sharing, student content notes, course and private text chat, instant messaging, and breakout rooms. Accessibility features include messaging, text descriptions of slides, keyboard shortcuts, *PowerPoint* slide descriptions, and interoperability with closed captioning services, browser accessibility features, and screen readers. Minimum requirements include *Windows/ 98* or later, *MacIntosh/9.0* or later, or *Linux*, 64 MB RAM (128 MB recommended), 56K dial-up connection or higher, *Internet Explorer 5.0* or higher, *Netscape 7.0* or higher, *Mozilla 1.0* or higher, *Safari 1.1* or higher, *Java* and *JavaScript*, and a sound card with dual audio streams. Closed captioning is possible via an interface with human captioning services. Client-side use of speech recognition software has not been tested. The program is compatible with several screen readers, including *JAWS* and *Window-Eyes*. *OpenCampus* sessions can be recorded for later playback and review. Closed captioning can be displayed from the recorded files, and the interface remains compatible with screen readers.

## **Conclusions**

Distance education is not the primary function of any of these accessibility products, but their development indicates the progress that is being made toward truly inclusive communication interfaces. Cost is the major barrier to development and adoption of these interfaces, particularly in relation to the need for high-speed bandwidth connections, the need to incorporate human sign language interpreters, and the costs of specialized hardware and software. In addition, there is a need for the technology (particularly VOIP, speech recognition, speech synthesis, and sign language avatar programs) to mature. As long as sign language and closed captioning require the features described by Fitfield and Webster (2001) as “a trained and available cadre of sign interpreters, note takers, and realtime captionists,” costs will be high for these features. The

California Virtual Campus, for example, uses *OpenCampus* with *RapidText* for live streaming text transcription at \$190 US per hour.

Although products of this type show initial progress toward multi-language support, none incorporate international language translation. Apart from *OpenCampus*' slide descriptions, none of the programs reviewed contain the important cognitive level translation and automated image and video description features identified by Vanderheiden et al. (2002). Much of the accessibility in these programs is not yet integrated but is provided via compatibility with add-on programs. In all of the programs, application sharing, whiteboard and web co-browsing would be highly desirable for distance education use.

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The next report in the series reviews a further range of assistive software for disabled learners.

**N.B.** Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They can be checked at the Athabasca University software evaluation website: <http://cde.athabascau.ca/softeval/>. Italicised product names in this report can be assumed to be registered trademarks.

*JPB Series Editor, Technical Evaluation Reports*

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November – 2004

## Technical Evaluation Report

### *37. Assistive Software for Disabled Learners*

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#### **Abstract**

Previous reports in this series (#32 and 36) have discussed online software features of value to disabled learners in distance education. The current report evaluates four specific assistive software products with useful features for visually and hearing impaired learners: *ATutor*, *ACollab*, *Natural Voice*, and *Just Vanilla*. The evaluative criteria discussed include the purpose, uses, costs, and features of each software product, all considered primarily from the accessibility perspective.

#### ***Introduction***

Keeping up with other members of an online class, and participating in the development of a group project online, can create *huge obstacles* for disabled learners. If these problems can be solved, however, the distance education (DE) environment can be markedly more efficient for the disabled learner than the conventional, face-to-face setting. Valuable attempts to enhance the online environment for disabled learners are currently being made, notably in the development of learning management systems (LMS) via open-source software (OSS) methods. Two products of this type are examined in this report, *ATutor* and *ACollab*, both containing accessibility features useful to visually-impaired learners. In addition, a text-to-speech product was examined (*Natural Voice*), and *Just Vanilla*, a service that assists learners with visual, aural and other types of impairment in the development of online environments. The four software products were selected for the study in view of their reasonable price and suitability for educational environments. The American Society for Training and Development (ASTD) software evaluation criteria applied in previous reports in this series were used - i.e., cost (institutional and user); complexity (user focus); control, clarity, Common Technical Framework (CTF); and features.

## Product Trials

### 1. *ATutor 1.4*

*ATutor 1.4* is a standards-compliant, Web-based Learning Content Management System (LCMS), developed by the Adaptive Technology Resource Centre of the University of Toronto. It is open-source software (OSS) available at not cost, and compliant with the GNU Project Standards. This means that course content created in *ATutor* and other compliant packages can be exported/imported from one to the other. Its developers claim that *ATutor* is the only fully accessible LCMS software on the market, allowing access to all potential learners, course developers, instructors, and administrators, including those with disabilities who may be accessing the system using assistive technologies. Research conducted for this report did not reveal any other software with the same functionality for accessibility, OSS or otherwise. Users have some control with regard to development, use, and distribution of the software. Educational institutions are permitted to charge for course content built in *ATutor*, and for hosting services, and the main cost of implementing the software is that of operating an HTTP webserver. Content also can be created and stored on an *ATutor.ca* server.

Installation of *ATutor* requires an additional database, preferably MySQL. Downloading and installing/upgrading the product is a relatively simple process, though installation of the Unix version requires specialized server administration skills. *ATutor* provides extensive course creation and management capabilities, including communication tools, course search engine, viewer for offline viewing, content tracker, and test manager. Numerous features help to equalize the learning experience for disabled learners - e.g., accessibility preference configurations, synchronous text-based communication via *AChat-PHP*, text alternatives for images, and adaptive navigation facilities including bypass options that skip over non-essential navigation elements in order to go directly to content. Personalization is available through a control centre where personal course information can be inserted. Course interfaces are also easy to customize by changing the display *Themes*. Useful "Access Key" options are provided for navigating course content - e.g., Alt/1 = *Home*; Alt/2=*Tools*; and Alt/3=*Resources*. Additionally, Content Editor Access Keys and Chat Access Keys are available. The product is available in 12 international languages, with 42 other language packs currently in development. Since *ATutor* is OSS, new features can be requested or developed by users. One in progress is a text-to-speech method to present *ATutor* content in audio form, including audio components for mouseove's and icons, feedback, and content.

Using these features, disabled learners can participate fully in learning course content and can collaborate with their peers in an online environment. Whether for disabled or non-disabled learners, content developer, or course administrator, *ATutor* is judged an excellent LCMS for educational and corporate users, and competes well with commercial LCMS packages, including those offered at high prices. [Note: Spurred by this positive evaluation, and by the evaluation of *ATutor* as the most efficient of 35 LMS and LCMS softwares reviewed by Farrell (2003), the second author has converted his Athabasca University course for *ATutor* delivery, with default settings as shown in Figure 1. The decision to adopt this format henceforward will depend on student feedback.]

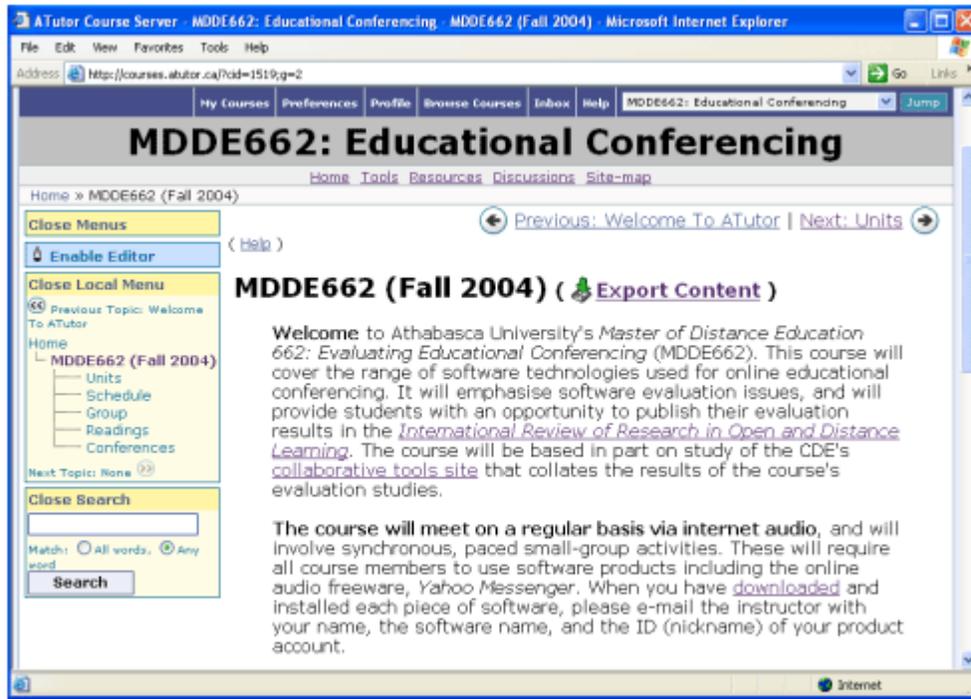


Figure 1. A sample configuration of ATutor used in an online Masters in Distance Education course

## 2. ACollab

*ACollab* is a collaboration tool for integration with *ATutor*. It is also an OSS product compliant with international accessibility standards, and involving no cost other than the Web hosting costs. *ACollab* enables full participation for learners and system administrators using assistive technology, with accessibility features similar to those of *ATutor*. These include Shortcut Access Keys and Chat Keys - e.g., Alt/1=Home; Alt/2=Forums; and Alt/3=Chat Room; also Accessible Chat Key options including Alt/C=Compose message; and Alt/R=Refresh messages. Easily downloaded and installed, *ACollab* contains tools allowing users to share resources, schedule activities, and work together on documents via the Drafting Room. Collaboration tools shared with *ATutor* include Discussions, *AForum*, *AChat*, Inbox, Private and Public messages, and file sharing. Various forms of Help are available, including *HowTo* documentation, public forums, and a multi-lingual interface. As with *ATutor*, *ACollab* is available in an increasing range of languages, and is comparable with costly commercial alternatives. A useful feature currently missing from *ACollab* is a whiteboard, though the developers' website indicates that one of these (*AComm*) is under development. Another useful feature, audio chat, will also apparently be available in the near future (*ATalker*). Meanwhile, learners can use other standalone audio-conferencing applications to complement the University of Toronto's *ATutor* suite of products.

In both the *ATutor* and *ACollab* evaluations, performance was satisfactory with both ADSL and 56K dial-up connections. A concern with both products is technical support. Responses to questions are answered by other users, not necessarily immediately.

### 3. *Natural Voice*

Developed by AT&T, this software's *Text-to-speech Reader software* converts text to spoken words enabling users to listen to text rather than reading it. The user can choose between several human-sounding voices. The *Standard* version used in this evaluation is free, and contains only three of the voices. Better vocal quality and added functionality is available in purchased versions of the product (*Professional*, currently US \$35.50; and *Enterprise* US \$69.50). In all versions, the slightly choppy female voices flow more easily than the male. The free *Standard* version provides adequate vocal quality, though for long-term users, upgrading to the more natural voices of the paid versions would be a desirable option. The application works with various software. Using *MS Word*, *Outlook* and *Internet Explorer*, as well as PDF files and text files, text was vocalized with surprising accuracy. The Access keys were easy to use - e.g., Ctrl/F9 to read text; Ctrl/F10 to pause - as were the navigation menu buttons: Read, Pause, Resume. The *Speaking Speed* control provides four variable reading speeds. The software allows text to be recorded into .wav and .mp3 formats, for repeated use and for burning to a CD.

The product has the innate disadvantage of all text-to-speech application: the inability to distinguish background material from that requiring translation. For example, in order to read certain parts of the *Natural Voice* website, the user has to select the text the actually required, or superfluous material such as section titles, navigation links such as “more”, etc., will be read also. This is a minor irritation in a product that is of good quality for learners in general, and the visually impaired in particular.

### 4. *JustVanilla*

*JustVanilla* is an online service that provides a customizable website interface assisting all users, particularly visually impaired, to use the Internet. Users are provided with a personal URL and four webpages they can access from any PC with an Internet connection. The “Access Gateway” provides access to other websites by using *JustVanilla* as a “browser,” while maintaining personal preferences, such as colour, text size, etc. This feature provides all users with a faster method for performing research on the Internet. Over 30 Web accessibility features are included:

- An easy-to-use Navigation Bar
- Choice of background colour (though no background images)
- Variable fonts: bold, increase/decrease size, upper and lower case options in body text
- Minimal graphics, but alternative text attribute descriptions applied with essential images
- Option to change the names of bookmarks to better describe their targets
- No frames (except “chat” and “gateway” if preferred)
- JavaScript routines automatically executed, except in a few limited instances where advance notification is given
- No scrolling, moving or flashing text
- No plug-ins (e.g., Shockwave/ Flash content)

Navigation around the product is straightforward, with menu-bar links to text-based navigation options including: Reading Area, Open Directory, *Google*, Community, Help, Text size, Gateway, and Access pages for the user's favourite bookmarks (Research Zone, Home, Work, Education, Shopping, etc.). A right-side navigation menu contains the Community options, including Profile, Chat, Forum, Tools, Games, Help, etc. Chat is very simple to use, with incoming messages above a standard reply text box. Messages display the hours and minutes when sent, but no date is attached to the messages, making it difficult to store complete records. The Forum is a threaded discussion, and intuitive to use with a reply text box for existing message threads, and a link to create new threads. *JustVanilla's* Accessible Wireless Access Protocol (WAP) Emulator (not evaluated in this study) enables viewing of WAP content in full screen mode, with customizable displays.

The add-on software *Vanilla Talk* provides audio options. It is very easy to install, and opens in a browser display with a top menu of neon green buttons on a black background. *Vanilla Talk* is operated by combinations of six hot keys. Clicking the Speak button voice-enables content on any chosen webpage and on the text-based navigation buttons. When clicked, each menu button describes the action it was performing - e.g., the Back button 'says' aloud: "Go back. The title of the page is . . . ." The vocal quality of *Vanilla Talk* readings is a bit choppy, but intelligible. The 12 voices available are not as realistic as most of the voices available in the previous product reviewed in this study (*Natural Voice*). Slight errors were made on some words, and punctuation was not necessarily followed - e.g., pauses in places that did not require them, which affected comprehension of the content slightly.

With an annual subscription price of US \$35 and no administration costs, the service is attainable for university, corporate, and individual users, and the accessibility features make it exceptionally useful for visually impaired users. The *Vanilla Talk* add-on software can be purchased for US \$105, or for US \$85 if being purchased when subscribing to *Just Vanilla*.

## Conclusion

The four applications reviewed have each been developed with accessibility as a major priority. Overall, all of them addressed this concern adequately. The cost-free open-source applications, *ATutor* and *ACollab*, meet the requirements of a well-equipped learning management system, and will become more comprehensive with the addition of forthcoming whiteboard, application-sharing, and audio capabilities. *Natural Voice* and *Just Vanilla* are user-friendly and reasonably priced for universities or corporations, as well as for individuals. Each product provides accessibility options that are beneficial for disabled learners, as well as for users in general.

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The next report in the series investigates a community's potential suitability for distance education.

**N.B.** Owing to the speed with which Web addresses are changed, the online reference cited in this report may be outdated. It can be checked at the Athabasca University software evaluation website: <http://cde.athabascau.ca/softeval/>. Italicised product names in this report can be assumed to be registered trademarks.

## References

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November – 2004

## Technical Evaluation Report

### ***38. Defining a Theological Education Community***

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#### **Abstract**

The current paper builds on Reports #34 and 35 in this series, which discussed the use of collaborative software to develop online communities in distance education (DE). The paper illustrates the manner in which an educational community's needs should be carefully examined, in the process of designing techniques that fulfill these needs at a distance. Student perceptions of their theological education community at Concordia Seminary, St. Louis, Missouri (<http://www.csl.edu/Home.html>) are investigated, via a survey instrument designed to define the students' communal needs.

#### **Introduction**

Distance education (DE) is still, at best, a fledgling enterprise among higher theological education institutions. Even though DE inroads are being made at some theological schools, the programs involved are usually small and restricted to the needs of students who cannot come to campus for “the real thing”. Most theological educators still view DE as an inferior form of education compared with face-to-face (F2F) studies. They typically present several reasons for their slow adoption of DE, but perhaps the most common and most forcefully stated reason centers around issues of *community*. Theological education involves much more than the mere transfer of information, and seeks to establish a modeling/ mentoring relationship that takes place within a theological community. There, theological thinking, reasoning, and lifestyle are modeled, students daily engage in “water cooler” discussion and debates, and theology involves the engagement of one's personal being and the transfer of an entire culture and belief structure. These activities have traditionally involved close F2F contact between students and faculty, and theological educators have resisted DE because they contend that the rich traditional, environment cannot be reproduced in a distance setting.

This argument against DE, however, is based on several, often unstated assumptions. The *first assumption* is that a community must be spatially situated, and defined in fixed physical terms (e.g., by village or neighborhood, or campus boundaries). Since the advent of inexpensive travel and long-distance communication technologies, however, personal communities have expanded beyond spatial boundaries, and include people who live far apart. A *second assumption* is that campus communities are by definition closely-knit. This may have been true when most theology students were single and lived on campus. In that environment, students lived, ate, played, and

studied together in an intensive community experience. The experience of many theological campuses today, however, is quite different. Many seminary students are married with children, come from previous careers, and live and work away from campus. It should not be assumed that locality does not play an important role in their community experience. The campus is still the central meeting place where many student activities take place. But students now have busy lives filled with activities that take place off campus, and their situation complicates the task of creating supportive campus-based, student communities.

The current project is based on the belief that DE techniques may be useful means to compensate for the relative estrangement of modern-day campus life. The study aims to discover and describe the theological education community from the students' perspective, and to provide theological educators with an accurate description of the meaning of the communities to which they cater. It is hoped that, supplied with this description of the theological community, educators will be better equipped to make decisions relating to residential and DE aspects of theological programming. Specifically, the project will address the question: "How do residential theological students of Concordia Seminary perceive their community?" To answer this question, the following questions are asked:

- Q1. Who are members of a student's community?*
- Q2. What activities do the students regard as primary in their community?*
- Q3. Where do activities within a student's community occur?*
- Q4. How satisfied are students with their community?*

## Method

Concordia Seminary in St. Louis Missouri, has 538 students enrolled in the Master of Divinity program (MDiv), which prepares students for ordination and pastoral work. The residential students who participated in the study are all male and in the 2nd year or 4th year of the program. The average age of the student population is 30 years. Fifty percent of the students are in their second career, and 57percent are married. The specific sample investigated comprises 21 full-time, residential MDiv students. Two professors were randomly chosen and asked if they would allow the researcher to talk with their students. Both professors granted this permission, and offered the students the possibility of participating in the study. Thirty-seven surveys were distributed, of which 21 were completed and returned.

## Results

### *Q1. Who are members of a student's community?*

Five community member categories were identified:

1. The single largest community member category is that of *Church/ Pastor*, yielding 108 responses out of a total of 457 responses (23.6 percent). This category consists of all churches with which the student has a relationship - e.g., a home church, or fieldwork churches in which students work during their residential studies.
2. The second largest category is that of *Professor*, yielding 76 responses (10.1 percent). Some survey participants did not use *Professor* as a category, but chose to use *Classes* as

a category. *Classes* recorded 25 responses (5.5 percent). When *Professor* and *Classes* categories are combined, there are 101 responses (22.1 percent).

3. The third category is that of *Friend*, with 64 responses (14 percent).
4. The fourth is that of *Spouse/Family*, with 49 responses (10.7 percent).
5. The fifth is that of *Group*, with 29 responses (6.3 percent).

**Q2. What theological education activities do students regard as primary in their community?**

a) **Support:** The most frequently mentioned activities in which survey participants receive support are:

<u>Activity</u>	<u>Responses</u>
Receiving encouragement	62
Financial aid activities	59
Spiritual support activities	50
Friendship/relational activities	19

b) **Theological Education Spiritual Development:** The most frequently mentioned activities in which participants find their spiritual lives strengthened are:

<u>Activities</u>	<u>Responses</u>
Prayer	28
Discussion and sharing of insights	19
Bible study and other learning activities	16
Worship	11

c) **Information Transfer:** The most frequently mentioned activities in which participants transfer information are:

<u>Activity</u>	<u>Responses</u>
Lectures and classes	41
Skill development and application activities	21
Role Model and sharing of insight	7

d) **Knowledge Construction:** The most frequently mentioned activities in which participants construct knowledge are:

<u>Activity</u>	<u>Responses</u>
Discussion and conversation outside of classroom	30
Course work activities	21
Bible studies	9
Field work church activities	3

e) **Social Capital Construction:** The most frequently mentioned activities in which participants construct social capital are:

<u>Activity</u>	<u>Responses</u>
Friendship and peer activities	16
Extra-curricular activities	10
Field work activities	5
Small/study groups	3

### *Q3. Where do activities within a student's community occur?*

The primary purpose of this question is to identify whether or not students perceive their community activities as taking place inside or outside of the seminary structure. All activities that take place as a direct result of the student's activities at Concordia Seminary are considered as inside the seminary structure. All activities that are not a direct result of the student's work at Concordia Seminary are considered as being outside the seminary structure.

<u>Activity Domain</u>	<u>Inside Response</u>	<u>Outside Responses</u>
Support	31 (27.7%)	81 (72.3%)
Spiritual development	42 (43.8%)	54 (56.2%)
Transfer of information	61 (67.8%)	29 (32.2%)
Knowledge construction	55 (67.0%)	27 (33.0%)
Social Capital Construction	46 (59.7%)	31 (40.3%)
<b>TOTAL</b>	235 (51.4%)	222 (48.6%)

These responses indicate that community activities are split approximately 50/ 50 between activities that occur inside and outside of the seminary structure. Support activities, primarily financial aid and encouragement, predominantly take place outside the seminary structure. Spiritual development activities are also seen by students as taking place predominantly *outside* the seminary community. Activities associated with the transfer of information and the construction of knowledge are perceived as primarily occurring *inside* the seminary community. The construction of social capital is mainly taking place within the seminary structure, with a strong minority of social capital building activities (40 percent) taking place outside it.

***Q4. How satisfied are students with their community?***

This question attempts to identify the theological student's general level of satisfaction with his educational community's ability to satisfy his needs in each activity area. Evidently, students feel that their theological education community is doing a good-to-excellent job in satisfying their needs. They perceive that the community performs at its best in meeting their material and non-material needs, and that it is weakest in the area of constructing knowledge (though this satisfaction level is nonetheless strong. The cumulative responses to questions in this category were as follows, where agreement indicates satisfaction:

<u>Strongly Agree</u>	<u>Agree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
51	47	4	0

**Discussion of Results**

The results indicate that they seminary students perceive themselves to be well supported in all activity aspects of their community life, and that their communities are diverse and widely distributed inside and outside the seminary. Not surprisingly, the professor and the classroom play a major role in the theological education community. The professors and their classes are by far the leading context in which students acquire information, and the classroom is the leading context in which students transform information into knowledge. In the current study, however, seminarians identified the classroom context as only the third major community setting in which their spiritual formation takes place; and a striking finding is the prominent role of external church congregations in the students' community life. Students perceive congregations (including home and fieldwork communities associated with the MDiv program) as the primary community provider of material and non-material support, and of opportunities for spiritual development. Congregations are perceived as comparable with formal classroom tuition in relation to knowledge construction, and are identified as the second largest community provider in the transfer of information. The data indicate that students use their work and interactions within congregations as their primary platform for testing and validating the information that they receive in the classroom. This testing and validation process is a crucial step in transforming raw classroom data and information into knowledge, and in transferring the knowledge to other settings.

It is also evident that congregations are an important venue in which students obtain new information and spiritual development. This is not a traditional view in theological education. Evidently, when supervising seminarians' fieldwork, pastors take time to interact with them. The students greatly value these interactions, and it makes a significant impact on them. This impact comes in the form of either new information or the adaptation and adoption of classroom

information into the seminarian's cognitive structures. Conversely, students who come from home and fieldwork congregations where interaction between the seminarian and the pastor is lacking, do not experience such a rich theological education community as is evident in the congregations where such interaction is common. This raises questions of work overload in fieldwork congregations which have a large number of seminarians. Numerous other conclusions are possible from the data as a whole, and those relating specifically to DE implications of the study will be stressed by this report.

## Implications for Distance-Based Theological Education

'Church' could be simply changed to 'Society,' or, in the case of a corporate educational program, to 'Acme Corporation!'

## Conclusions

Societal changes in the United States commonly raise the question of whether or not the theological education community has deteriorated. The current survey, however, has indicated that the theological education community of Concordia Seminary, St. Louis is alive and well. It is diverse and distributed, taking place in the classroom, the home, and local congregations. Outside congregations, both local and distant, support students with material and non-material needs and with opportunities for spiritual growth. These same congregations also play an important role in the transfer of information, and the construction of knowledge and social capital. Although improvements could be made in its design and sample size, and more information could be collected about the students' demographics, the survey has generated suggestive findings about the future viability of DE approaches in meeting the needs of the distributed communities in which today's theological students are active.

## Author

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The next report in the series discusses an online approach to marriage mentorship.

**N.B.** Owing to the speed with which Web addresses become outdated, online references are not cited in this report. They are available, together with updates to the current report, at the Athabasca University software evaluation site: <http://cde.athabascau.ca/softeval/>. The report is also featured in the ConferReview archive of <http://www.conferzone.com/>. Italicized product names in this report can be assumed to be registered industrial or trademarks.

*JPB Series Editor, Technical Evaluation Reports.*



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November – 2004

## **Technical Evaluation Report**

### ***39. Marriage Mentorship at a Distance***

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#### **Abstract**

Marriage mentorship is one of the most effective methods through which a couple can enrich their marriage. A good mentorship relationship is based on feelings of warmth and affinity between mentors and mentees. When a relationship of trust is established, the mentees feel more freedom to express their deeper feelings and to explore new paths of mutual understanding. In what ways does the quality of interaction change when mentors and mentees interact via a technological medium such as online audio-conferencing? This paper compares three marriage mentoring experiences that employed online conferencing as the medium of interaction. Audio-conferencing methods provided a particularly warm, trusting interaction between participants, and an effective environment for learning and for practicing communication skills. The paper makes recommendations for efficient online mentoring practice, and builds on a previous discussion of online practice in the community advocacy context (Report #35 in this series).

#### **Introduction**

Mentoring is a highly effective form of marriage enrichment for good marriages, troubled marriages, and those in between (McManus, 2001). Normally mentoring occurs face-to-face (F2F), which is regarded as the most efficient mode for the mentors and mentees to establish the warmth and affinity that is the foundation of a good mentoring relationship. When F2F meeting is not convenient or practical, however, online methods of communication may be considered. Can mentorship be effective when it is mediated through online technology? This paper examines the use of online audio-conferencing as a medium to support an effective marriage mentorship relationship in a distance education (DE) environment.

#### **Three Online Marriage Enrichment Experiences**

The writer has participated in three DE environments designed to enrich marriage relationships. Each experience was significantly distinctive, either in the content of the program, the medium of interaction, or the role of the writer. The first, "CoupleTALK," was an online marriage enrichment course. It is included in this discussion as an example of asynchronous interaction for comparison with the other programs that used a synchronous audio-conferencing tool. The second session, "Mentorship Training," was not designed as a mentoring program, but, through the experience, participants did feel mentored. As a type of mentoring situation involving relatively

healthy relationships, it provided some interesting comparisons with the third example - the online mentorship of a couple with a troubled marriage.

### ***1. CoupleTALK Trial (CT)***

The writer and spouse participated as students in *CoupleTALK* (1999), a DE program offered by Kansas State University. The main study materials were online texts by Olsen and Rice (1997). The program was divided into seven modules: 1) Introductions; 2) How to Fight Right; 3) Learning to Listen; 4) Expressing Yourself; 5) Managing Expectations; 6) The Balancing Act; 7) Best Friends. Each module specified its own learning outcomes, readings, and activities, and participants were instructed to complete these sequentially. Self-evaluation quizzes were provided at the end of each module to provide students with a metric of their own progress. Students were strongly encouraged to participate in an asynchronous, text-based computer-mediated conference (CMC) associated with each module. This was the only forum for interaction between participants. Private email communications could occur between the instructor and individual participants.

Twelve individuals were enrolled in the program: four from Kansas, three from Canada, two from Tennessee, two from Texas, and one from Argentina. There was no requirement that both husband and wife should register. Of the two couples enrolled in the session, the writer and spouse were the only obvious couple. The CMC postings indicated that many of the other participants would have liked their spouse to be involved, but for a variety of reasons including busy-ness, disinterest, and alienation, this did not happen. It was difficult to sense the degree of involvement of participants. Other than the CMC discussion, all the readings and activities were pursued independently. Apart from an anonymous final evaluation, the instructor did not receive any feedback during the session other than the participants' CMC comments. After the second module, only three participants plus the instructor/ moderator contributed to the CMC discussions. The instructor later reported that participation in this session of the course had been similar to previous sessions. The volume of discussion had dwindled sharply over the last three modules, and no more than 10 percent of participants completed the final evaluation.

### ***2. Marriage Mentorship Training at a Distance Trial (MT)***

In 2003, the writer and spouse, based in Ontario, were leaders in a series of a nine audio-conferences with three couples from a community located about 200 km away. The leaders had previously met F2F with most of the remote participants, who all knew each other well through their involvement in different marriage mentorship activities for several years. The online sessions were not intended as a forum to deal with the personal issues of the couples, but were intended to introduce them to new concepts and skills involved with marriage mentorship, both F2F and online. The conferences were facilitated by audio-conferencing software from *TalkingCommunities*. Participants required a Windows computer with speakers, a microphone attached to their computer soundcard, and a 33K or better Internet connection. Initially the three remote couples were together at one of their homes, but later in the series of meetings they each connected from their own chosen location. On one occasion with a guest participant, there were five simultaneous connections to the conference, the maximum that the software license would support. On another occasion, the group divided into pairs of couples meeting in separate conferences to practice using some of the techniques and tools under consideration. Most of the time the audio-conferencing interface worked well, though occasionally some users had problems maintaining a stable Internet connection.

Each conference lasted was about an hour and involved teaching, group discussion, and practice. With the half-duplex audio communication channel, there was opportunity for participants at each location to interact privately or with the whole online group. During each session, the leader/moderator controlled a display of PowerPoint outlines on each participant's screen. The couples had access to these outlines in advance of each session by downloading them from a website. Between sessions, they completed short assignments. A fruitful learning element was the discussion among the couples about the content under consideration, and its relationship to their mentoring experiences. In the early sessions, participants discussed the role and responsibilities of mentors. A number of the sessions dealt with communication skills, and how to introduce and rehearse them with mentees. The sessions at the end addressed the use of REFOCCUS (Markey, Micheletto and Becker, 1990), a relationship inventory tool designed to identify strengths in the marriage relationship and to explore areas for growth and problem solving. Because the couples were already active as marriage mentors in their communities, they were able to apply what they were learning in those situations. They would share some of their experiences in those mentoring situations with the group, and would discuss how the application of their learning had produced noticeable improvements in the interactions with and among their mentees. This was encouraging to all participants. One of the summative evaluations stated: "It has already had a great impact - we have seen just over the past two months great improvements in (the mentees') relationships, especially if they make the commitment to really use their new skills."

### ***3. Marriage Mentorship at a Distance Trial (MM)***

The writer and spouse, based in Ontario, met, as a mentor couple, in a series of synchronous, online audio-conferences with another couple about 200 km away. TalkingCommunities audio-conferencing software was used. The two couples previously had some F2F discussions, and it was understood by all that the mentee couple had some serious difficulties in their relationship. One of the mentee spouses was enthusiastic about addressing marital issues, whereas the other tended to avoid dealing with issues. This pursuer-avoider pattern has been identified as a major source of conflict in many marriages (Markman, Stanley, and Blumberg, 2001). The mentee couple was initially very uncomfortable with the concept of communicating through the computer. The woman indicated that she had a phobia about computers and avoided using them. The man had used the computer for writing letters and some email, but was very apprehensive about the technical demands he assumed would be involved in setting up and participating in the online conference.

The early online sessions focused on communication skills – identifying negative communication patterns, constructing positive messages, and practicing active listening techniques. Progress was quite slow as the mentees' typical pattern of communication often involved personal attacks and this was difficult to moderate in the online environment. By the fifth session, the mentees were beginning to recognize the benefits of modifying their communication patterns, and expressed appreciation for what they were learning. In the sixth session, they completed a portion of the relationship inventory REFOCCUS. The next two sessions attempted to apply those skills in discussion of the core issues identified as strengths in the mentees' marriage. Even when talking about strengths, the mentees were experiencing difficulty applying the principles and techniques they were learning.

Prior to each meeting, the mentee couple received by email reading material related to the upcoming discussion. They were also assigned short individual or couple exercises between sessions. They rarely read these materials in advance, however, and attempted none of the exercises. Both mentees were pleasantly surprised at how easy it was to initiate the first

conference, and at the user-friendliness of the conferencing interface. Although the original plan was to meet once a week, the mentees suggested, after the first session, that twice a week would be preferable. After three weeks, the seasonal work commitments of the mentees increased, and the rate was reduced to once a week. After eight meetings, the mentorship relationship was suspended when the mentees felt they could no longer spare time from their busy work schedules. The only cost of participation was the mentees' time. On a few occasions they neglected to keep their online appointment or were seriously late in attending. The mentors had to make several telephone calls to reschedule meetings. The mentors gained the impression that one or both of the mentees did not value the sessions enough to make a serious commitment to them.

## **Effective Strategies for Marriage Mentorship at a Distance**

Marriage mentorship is a different kind of educational experience. It is a peer relationship. The mentors may be regarded as teachers, but they must also be learners, open to sharing their failures and successes, and valuing the group interaction as an opportunity to grow in their own relationship. The mentees are co-learners. If one partner does not cooperate, the learning experience is crippled. When one partner is more enthusiastic than the other, the less engaged partner may feel that they are being manipulated or controlled and may become more tentative. This appeared to be the situation some of time in the MM trial. On the other hand, the MT trial involved couples who were open and committed to making their good relationship even better. Their attitudes were more positive from the outset, and they were more motivated. This resulted in a more dynamic and productive learning experience.

Online mentoring involves important induction activities. It is essential that the mentors develop an open, warm, and accepting relationship with the mentees (Parrott and Parrott, 1997). A sense of connectedness and trust is needed between the mentors and mentees, a sense that all are working as a team in building stronger relationships, and that each participant is a valued and essential component of that team (Fage and Mayes, 1996). New beginnings involving personal revelations can be intimidating. Mentees need to be assured that they are in control of when and how much they wish to share. In a technologically mediated environment, induction means engaging the learners with the procedures relating to the interface, and encouraging them to see themselves as effective learners in this environment (Simpson, 2002, pp. 163 - 82). Simpson also points out that preparation involves helping the learners to develop the communication and problem-solving skills that they will need to deal effectively with their issues. In the CT trial, the curriculum was structured to address generic communication skills first. Participation faded away when participants were called upon to discuss personal issues. In the MT trial, the same sequence, first cognitive then affective, was followed and participation remained strong to the end of the program. The MM case was supposed to begin with generic communication skills, but the mentees seemed more willing to raise problematic issues; this seemed to decrease the sense of cohesiveness among participants. When the focus was redirected towards building communication skills, both mentors and mentees felt more at ease; there was an atmosphere of camaraderie and good humour as participants worked together on understanding and rehearsing these skills. The synchronous audio-conference medium seemed to support this cognitive learning. Throughout the activity, a sense of social presence was enhanced and essential skills for problem discussion were being developed, laying a good foundation for learning in the affective domain. Unfortunately, progress was slow in these sessions, and they were suspended before the participants were equipped to deal fully with problem-solving processes.

The CoupleTALK program materials are excellent at addressing the cognitive skills needed in rebuilding a marital relationship. When dealing with couple relationship, however, more than

good reading material is required. As in F2F mentorship, the interaction of the mentee couple with the mentor couple is the catalyst that enables the concepts and skills to be meaningfully applied in the relationship. Most mentee couples lack a shared vision of what they would like their marriage to become, and they lack the motivation and patience to persist in discovering that vision. Many are in somewhat adversarial relationships that make cooperative efforts difficult to start and maintain without the assistance of human mediators. Many lack the formal study skills to read, interpret, and apply instructional material without mentors' support. Good mentors will help a mentee couple to define goals for their relationship, and will assist in identifying and avoiding destructive patterns of relating. They will engage the mentees in skill building tasks, and will provide didactic support to supplement other learning materials. The mentees want structure. They need to feel that their mentors value them, and to have confidence in the materials they are sharing with them. Mentees are encouraged when they see progress coming from the interaction between themselves and with their mentors.

In surveys administered after the two programs employing the synchronous component, participants indicated they were very-to-extremely satisfied with what they had learned, and with how they had learned it. All indicated that they had already experienced personal benefit from the program: "As we put into practice and assist others in learning it, we really hear each others' hearts and gain a much greater understanding of each other." Although participants expressed appreciation for the cognitive skills they had acquired, there is also indication that significant personal transformation occurred in the affective domain for some of them.

### **Effective Media for Marriage Mentorship at a Distance**

In the CT trial (asynchronous text discussion), there was no evidence of interaction between spouses other than between the writer and his spouse. Almost all participated as married individuals. In a trusted counseling or mentoring environment, individuals can be willing to share very personal details about their marriage relationships, but in the context of a CMC conference with 10 other strangers, as in this case, personal revelation is more constrained. Asynchronous CMC interaction has a "hyper-personal" character: individuals can create "heightened self-presentations and idealized perceptions that magnify one another to a super-ordinal level" (Walther and Boyd, as cited in Tu and Corry, 2001). "People need to present themselves to others as an acceptable person one who has and is entitled to certain kinds of consideration, who has certain kinds of expertise, who is relatively morally unblemished, etcetera" (Tu and Corry, 2001(page #)). Two kinds of "presentation" were evident in the CT discussions. Two participants presented themselves as a spouse in need because they were in a difficult marriage, and the other five as individuals who had sound marriages and were looking for new ideas for helping other marriages. Those in the needy group received probing questions and some unsolicited advice about their relationships; and they did not persist in the sessions beyond the second module. The way in which they represented their personal marital situation in the text-based situation may have affected their feeling of involvement/ isolation in the asynchronous discussion, resulting in their premature withdrawal from the program.

In pre-surveys, almost all participants anticipated that the computer-mediated audio-conferencing environment would be somewhat cold and sterile, and that there would not be as great a sense of connectedness between participants as in a F2F meeting. In the post-surveys, however, they generally rated the two modes as equally effective. The audio-conferences had emphasized cognitive skills, and practice with communication techniques. Participants' feedback indicated that the medium was effective for that purpose. The interaction shifted toward the affective domain when participants were encouraged to share personal experiences and feelings. Was the

computer medium supportive in that function also? In the MT case, the four couples interacted in a broader forum, and were not encouraged to share deep personal details of their marriage. In the MM case, participants shared freely, but not always appropriately. They needed better skills to make their sharing more productive. Their willingness to share, however, was an indication that the audio medium is capable of facilitating affective change. This capability may be largely dependent on the sense of social presence and connectedness that participants develop in their interaction, and the degree of trust that is established between the mentees and mentors. The lack of a visual component was a negative aspect for some of them. Online video-conferencing technology of a reasonable quality is not currently accessible to most users, however. Online audio-conferencing, on the other hand, is becoming a viable option for many. In these trials, participants initial expectations of the audio medium were generally exceeded. With improved program design and moderating techniques, even better results may be attainable.

In the marriage mentoring relationship, mentors strive to be as open as possible in sharing both the victories and problems they have experienced. The hope is that mentees will do the same. Because a participants' spouse is present in the interaction, a second opinion is readily available if anyone tries to be too selective in the image he or she projects. It is a further advantage to use a medium that encourages people to be as "real" as possible. In synchronous F2F interaction, people have a more difficult task than in asynchronous CMC in being selective or unreal in their self-presentation. Therefore, a F2F discussion is the generally preferred environment for marriage mentorship. When F2F is impractical, however, synchronous audio-conferencing appears to be a better alternative than asynchronous text-based CMC. In the MM trial, both mentee participants had a strong aversion to text communication anyway, because they felt their typing skills were deficient. This is another consideration supporting the use of a synchronous vocal medium rather than CMC, email, or real-time text chat. Audio-conferences encourage dialogue. The interaction between mentors and mentees may be restricted by the absence of visual cues that are important in conveying affective information such as happiness, sadness, uncertainty, stress, and anxiety, but are less so for cognitive information (Simpson, 2002, pp. 51 - 77). A combination of the synchronous component with appropriate asynchronous materials may produce an optimal learning environment.

## Conclusions

Many programs, curriculums, and materials address marriage enrichment. The value of each can be measured by the degree to which it engages both partners in productive dialogue and activity that enhances their relationship. Mentorship is one of the best approaches. When F2F marriage mentorship is not available, online audio-conferencing appears to be a viable alternative. In the trials discussed in this paper, audio-conferencing provided an effective environment for learning and practicing communication skills. It also supported a warm, trusting interaction between participants, the important ingredient of a productive marriage mentoring relationship. As Parrott and Parrott (1997) have indicated, mentors should begin with relationship and confidence-building activities. The next stage should concentrate first on cognitive skills, progressing to a more transformative phase characterized by deeper interpersonal interaction. The trials reported in this paper did not test the various permutations and combinations of these phases in relation to different mentoring situations, media, nor learning materials. These possibilities invite further investigation.

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The next report in the series discusses the educational usage of learning object metadata.

**N.B.** Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They can be checked at the Athabasca University software evaluation site: <http://cde.athabascau.ca/softeval/>. The report is also featured in the ConferReview archive of <http://www.conferzone.com/>. Italicised product names in this report can be assumed to be registered trademarks.

*JPB Series Editor, Technical Evaluation Reports*

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November – 2004

## **Technical Evaluation Report**

# ***40. The International Learning Object Metadata Survey***

**Norm Friesen**  
CanCore Initiative

### **Abstract**

A wide range of projects and organizations is currently making digital learning resources (learning objects) available to instructors, students, and designers via systematic, standards-based infrastructures. One standard that is central to many of these efforts and infrastructures is known as Learning Object Metadata (IEEE 1484.12.1-2002, or LOM). This report builds on Report #11 in this series, and discusses the findings of the author's recent study of ways in which the LOM standard is being used internationally.

### **Characteristics of Learning Object Metadata Surveyed**

“Metadata” refers to systematically created and formatted descriptions of resources, intended for learning, informational, or other purposes. The LOM standard has become the most widely used solution for classifying and describing digital resources intended specifically for learning and education. It is only one way of describing digital and online resources, however. Other metadata standards and methods have been developed for the same purpose, including Dublin Core and the Rich Site Summary (RSS): see Report #11 in this series. A common feature of these standards and methods is the fact that each defines the function and structure of a number of data elements. Examples of these include the title, author, and location of the resource. RSS, for example, focuses on three of these data elements - title, link, and description; while Dublin Core specifies only 16 metadata elements. The LOM standard, on the other hand, includes 76 data elements, covering wide-ranging characteristics attributable to LOs, including their size, level and type of interactivity, and the educational context to which they are best suited.

The LOM defines all of its data elements in interrelationships that are both hierarchical and iterative. At the top of the hierarchy of LOM elements are nine broad category elements: General, Lifecycle, Meta-metadata, Technical, Educational, Rights, Relation, Annotation and Classification. The category elements each contain sub-elements, which, in turn, often contain further sub-elements. Many of the category elements, sub-elements, and subordinate elements can be repeated. This results in complex hierarchical and iterative structures, allowing for a total of over 16,000 possible, concatenated element repetitions. Some of the sub-elements in the LOM (e.g., the title element) can be assigned an alphanumeric value. Other elements are associated with a limited set of pre-defined values (e.g., describing educational context such as school,

higher education or training). In this last case, the set of values is often referred to as a “vocabulary” or “controlled vocabulary.” Still other elements in the LOM contain descriptions of persons (authors, editors, etc.) that are specially formulated and formatted using a specification known as *vCard*.

Given its relative size and complexity, as well as the fact that it is the first technical e-learning standard to be widely adopted, the implementation of the LOM presents an excellent opportunity for study and research. By looking at how it has been implemented in projects and in specific metadata records, it is possible to learn valuable lessons about e-learning standards implementation, and about how to develop and refine further standards to meet implementers' and educators' needs.

The current report presents the basic findings of an international survey of the implementation of the LOM standard. This survey was undertaken as a part of ongoing Canadian work in an international e-learning standardization forum: the ISO/IEC (International Standards Organization/International Electrotechnical Commission) subcommittee on Information Technology for Learning, Education and Training. The survey was conducted in two phases. The first involved the manual analysis of very small sets of randomly selected metadata records from a variety of collections and projects. The second stage involved the statistical, aggregate analysis of much larger sets of sample records, taken from five large collections from widely varying regions, including the European Union, Canada, and China. The findings of both stages of the survey were consistent and mutually reinforcing (see below). Only general findings and conclusions are reported in this paper. More detailed survey data and analysis are available in the original survey reports, submitted to the ISO/IEC committee (Friesen and Nirhamo, 2003; Friesen, 2004).

## Survey Questions

The survey of LOM implementation was guided by three specific questions. Each question relates to the data elements of the LOM, and to the way in which each element is understood and used (or alternatively, *not* used). These questions, and their contextualizing explanations, are provided here:

1. ***Which elements are being designated for use in LOM implementations?*** As a first step in implementing the LOM, organizations, projects, consortia, and national entities will frequently designate a particular set of LOM elements for use in their respective domains. Such localized sets of elements are called application profiles, and are often created in a process separate from technical implementation, as a matter of policy. Elements are explicitly recommended, required, or excluded from use. These policies are often applied in both e-learning content development and the creation of infrastructures to support the exchange of this content. Such an element set can include custom elements (element extensions), adding new elements to the 76 already in the LOM. More often, however, a subset of LOM elements is chosen, reducing the number of LOM elements, often by as much as a half.
2. ***Which elements are actually used in metadata records?*** Regardless of the elements required, recommended or excluded in application profiles and policy documents, the elements that are actually used provide additional information about element utility and metadata requirement. Of those elements actually populated, some may be utilized

consistently, and repeated in order to have a range of appropriate values assigned to them. Others may appear only once, with an apparently arbitrary value assigned to them.

3. ***What values are assigned to these elements?*** Finally, when elements are used, it is important to determine how they are actually applied to the needs of individual projects and resources. Quantifying the kinds of values assigned to elements can be difficult in some cases; but those elements with controlled vocabularies and value sets that are otherwise constrained (e.g., through the use of *vCard*) can be analyzed quite readily.

## Findings

The findings of the current survey are presented as responses to each of the three questions raised above.

1. ***Which elements are being designated for use in LOM implementations?*** The survey has shown that, in many cases, the elements designated for use in application profiles overlap with those already designated in the smaller, simpler metadata element sets represented by Dublin Core and RSS. In addition, educational elements in the LOM (those aspects of the data model that add obvious special value for educational applications) are frequently *not* designated for mandatory use in application profiles. Given some of the findings discussed below, this raises the question of whether the challenges and costs presented by LOM implementation are readily offset by its benefits – especially in comparison with alternative metadata solutions such as Dublin Core.
2. ***Which elements are actually used in metadata records?*** The answer is essentially the same as the first one (above), with some qualifying details identified in the survey data. The elements actually populated in the metadata records studied can be characterized as focusing on the *intellectual* content of the resource. Many of these elements have rough or exact equivalents in the Dublin Core Metadata element set. The same can be said for those elements which describe the resource in terms of its characteristics as a media and Internet file: they are well-utilized and also correspond to elements in the Dublin Core element set. Those elements which attempt to describe the resource as a software object, or to associate with it an educational context or level, are much less frequently utilized. This is reinforced by vocabulary values which are used to identify contributions to the creation of the resource - i.e., the roles of author and publisher were well-utilized (together constituting over 95 percent of the roles or values chosen), but roles associated with software, instructional design, and media development (e.g., initiator, terminator, graphical designer, instructional designer) were ignored.
3. ***What values are assigned to these elements?*** Again, the finding is in keeping with the answers to the first two questions. In many cases, elements with controlled vocabularies were assigned values that reflected traditional, even print-oriented understandings of the resource as a 'ublished asset, rather than as a modular software object. These elements include not only the roles of contributors to the object (as above), but also the many values which can be assigned to indicate the resource's technical format (45 percent of which were indicated as “text/html”).

A number of other findings pointed to issues additional to those raised in the questions above.

1. A surprising result was observed regarding the process whereby metadata records are combined from a wide variety of collections into a single collection for aggregate analysis. It was found that it is very difficult or, given limited resources, actually impossible to import the various records into a single database, and then to perform database queries to discover divergent and common characteristics. This seems to have been the case in other, more limited survey efforts (e.g., Najjar, Ternier, and Duval, 2003). LOM structures, with their hierarchical and iterative interrelationships, make data portability difficult to realize using conventional, low-cost technologies. Data portability and reuse is presumably the *raison d'être* of the LOM. The difficulties the LOM presents to educational implementations in this regard are not positive indicators of the prospect of increased sharing and reuse between implementations and across jurisdictions.
2. Very little of the complexity and detail that *vCard* information can supply about contributors is actually exploited (almost 90 percent of the *vCard* fields were unused in all instances studied). Any advantage that the inclusion of *vCard* might present in LOM records, is far outweighed by the difficulties of its implementation, and the under-utilization of *vCard* fields.
3. Only a small number of the potential element iterations and vocabulary values were used overall. This is unfortunate. Given the difficulties that these nested iterations and vocabulary choices can present to systems developers and record creators, the fact that few are used is cause for concern.

## Conclusions

What do these findings mean for learning object implementation, and for the many projects and initiatives where learning object metadata are being used? On a positive note, the survey has revealed considerable convergence among implementations in element choice and utilization. Implementers have consistently opted to use roughly the same subset of elements, focusing on the description of the intellectual content of the resource. The fact that these same elements are also included in other, simpler metadata solutions, however, raises an important question: “What is the value added by the multiplicity and complexity of elements and element structures in the LOM?” The fact that a range of elements, and many of the possible element iterations in the LOM, remain unused means that their value is not being realized. At the same time, the price paid for this complexity and multiplicity, in terms of implementation work and data portability issues, is appreciable. These conclusions suggest that a very considerable return on learning object investment will be required for profit ultimately to accrue to learners and end-users.

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The next report in the series examines recent developments in the WebCT course management system.

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November – 2004

## Technical Evaluation Report

### *41. WebCT: a major shift of emphasis*

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#### Abstract

The evaluation reports in this series usually feature several products at once. The current review, however, comes at a time when one of the most widely used (and expensive) online learning management systems is undergoing a major change in its marketing strategy and corporate focus. *WebCT* is currently evolving to a new version (*WebCT Vista*), with much attendant discussion by distance education (DE) users. The current review, as the others in this series, adds the DE student's perspective to this discussion. The review compares the existing *WebCT Campus Edition* with the new *WebCT Vista*, and examines some of the problems associated with the migration to *Vista* at the institutional level. A response to the report by the *WebCT* company is appended.

#### The *WebCT* Product

*WebCT*, or *World Wide Web Course Tools*, is was originally a Canadian product originally developed at the University of British Columbia in 1995, as part of a research project to study the impact of online learning on student outcomes, out of a desire to enhance and enrich the learning experience through new technologies. Today, it is used by 10 million students at over 2,500 universities and colleges in 80 countries, and is described as having "revolutionized the way people teach and learn" (UBC, 2004). In 1999, the *WebCT* interest merged with *Universal Learning Technologies* of Massachusetts, and has offices in Canada, the US, and Australia. In the process, the product's mission has expanded from serving purely educational purposes to providing "enterprise-wide" learning management solutions in all areas of e-learning and training. Today, the *WebCT Campus Edition (CE)* is claimed by its vendor to be a "global market-leading Course Management System (CMS)" (*WebCT* website, 2004). The *WebCT Vista Academic Enterprise* edition is the latest version. One *WebCT* user, the New Mexico State University, indicates (2003), that the company:

". . . is scheduled to discontinue support of its Campus Edition version in December 2006 leaving only the Vista edition of the course management system available and supported." (At that point, NMSU estimates that its annual licensing and running charges will rise from \$40,000 to, in the first year of Vista operation, \$650,800 US.) The estimated first year cost for a perpetual Vista license at New Mexico State University is \$290,400. Additional costs would

include an Oracle license, system hardware, and setup time. The annual maintenance cost of the perpetual license will be approximately \$48,400. Estimated total first year costs associated with the implementation of a WebCT Vista course management system at NMSU is \$602,400."

The system provides many tools for content creation and delivery within individual courses. The CE is designed to support single institution use with limited customization and branding capabilities. It is scalable and supports integration with campus portals based on JASIG's uPortal framework a variety of portals and other campus systems.

In seeking to compare the CE with the new *Vista*, however, the current evaluation team was unable to obtain unrestricted access despite attempting to do so via correspondence lasting several weeks ran into a problem of access. A previous report in the current series, by Fahy (Report #10), refers to "the right to pilot-test", and states that "Evaluators should have access to a choice of reference sites". Obtaining such access in order to evaluate *WebCT*, however, is evidently no simple matter. The company's online demos of the CE provide a very limited view of the product's capabilities. The user is led through a series of mini-tutorials which stress how easy it is to personalize, create, customize and evaluate student learning in CE. Due the highly directed nature of these demos, however, it is difficult to assess the product's general usability. A number of exemplary courses are made available on the product website, giving some insight into this from the student perspective, though not from that of the teacher/ course developer. More extensive student evaluation than this appears not to be facilitated, although the vendor does appear interested in enabling trials of the system by institutions formally interested in adopting it. This restricted accessibility made it difficult for the current team to evaluate the two *WebCT* products fully, and from the point of view of the six ASTD evaluation criteria used in previous reports in this series: cost, complexity, control, clarity, common technical framework, and features. The report presents a general comparison of the two product versions, therefore, based on online descriptions of them rather than on direct first-hand experience.

## WebCT Campus Edition *versus* WebCT Vista

### *Features*

According to the vendor, significant changes have been made in *Vista*, to improve the e-learning experience permitted by the CE. Improved tools in *Vista 3.0* enable the learner to:

- Use link annotations instead of just icons, providing added instructional information and guidance within a course interface
- Sign up for collaborative assignments by self-selecting a discussion or lab group based on the description of an assigned task
- Print or download entire learning modules for offline learning and archiving

*Vista 3.0's* improved teaching tools enable the instructor to:

- Personalize courses and customize grade books through the use of course templates
- Access a holistic overview of student participation in discussion groups and assign a grade to the grade book from within the discussion forum

- Grade by question (horizontal grading), grade anonymously, and provides at-a-glance access to gradable item statistics
- Uses an extended PeopleLinks program to give instructors access to student performance reports at any level within/across an institution.

In terms of improved administrative tools, *Vista 3.0*:

- Allows student activity reports to be rolled up and viewed at any level within/across an organization
- Enables institutions to access and export data such as student tracking, template and enrolment

*Vista* contains a text chat-room feature and a whiteboard, but no in-built capability for online audio/ video chat or conferencing. The product can be combined with additional licenses for *Illuminate* and *Wimba* for these capabilities. In addition to messaging, grade access, course content pages, discussion threads, and synchronous discussion rooms, *WebCT* offers whiteboards for synchronous worksheets. Course materials, discussions and email are searchable and can be spell-checked. Discussion postings can contain HTML and URLs. File attachments can be attached to postings, and a text editor enables the creation of mathematic equations. Learners have their own personal file for storing course information, can attach notes to course pages, can be assigned to subgroups according to pre-selected criteria, and can create shared online folders.

*Vista* also provides course and curriculum creators with an integrated courseware creation system with sharing capacity over the entire institutional, *Vista*-accessible network, and the possibility of storing original, personal, changeable copies of course material for individual users. With user-friendly interfaces, a what-you-see-is-what-you-get (WYSIWYG) editor, and the potential to draw on all learning objects in the repertoire (including CDROM, archived material and OSS content), creators can assemble paced courses with automatic entries for each graded stage of a course, and can track overall and individual student performance within it.

Its enhanced administrative tools appear to be one of *Vista's* most notable developments. The *Vista Enterprise Learning* brochure (2004) sees a role for data collection and analysis in the "improvement of learning outcomes":

[A]dministrators can analyze how learning tool usage varies in fully online courses vs. technology-enhanced or hybrid courses, or which instructional activities are correlated with higher student retention rates. With the *WebCT Vista PowerSight Kit*, institutions can access a whole new set of data about students' learning interactions. Analyzing this data can improve the understanding of student behavior and ultimately improve learning outcomes (n. p.).

One is forced to assume, based on the lack of *Vista* demos at this stage, that the overall look-and-feel is similar in the two product versions.

## ***Cost***

*Vista 3.0* is the fullest *WebCT* edition to date and also the most expensive. There is a major cost difference between CE and *Vista* in terms of the institutional licensing and system requirements.

CE is less costly, for it uses the *Berkeley Fast Flat File System*. *Vista*, on the other hand, uses the expensive Oracle application server. In 2005, *Vista* will also be available on the SQL server. According to Young (2002), CE pricing has risen steadily and can range from \$7,000 to \$30,000 US, depending on student enrolment and licensing options; but the cost of operating *Vista* is in the "six figures". The CE license is based on an annual subscription available in two forms: Institution or Focus. The Institution license is determined by number of full-time students in the institution, while the Focus license is limited to a maximum number of users, generally 3000 (EduTools, 2004). *Vista* also has two types of licensing.

1. The traditional package installed on a server platform may be licensed. Although the product's website contains no actual cost figures, it seemed that the price varies according to the number of institutions, student depends on the number of users and courses offered via the platform. A consortium of institutions may try to join together to run a single *Vista* database, but the *WebCT* company customizes its licensing agreement in working with the institutional customers individually, and will nevertheless charge a license fee to each institution.
2. Under a hosting license, the *WebCT* company will host the course site. The user institution is responsible for course creation, implementation, and maintenance, but is not required to deal with the software administration. The hosting price is also dependent on the number of users and courses.

In addition to the license for the *WebCT* platform, additional hardware and software may be needed in order to run it; and getting set up with all the licensing and infrastructure can cost in the hundreds of thousands of dollars. A *Windows 2000* server (with Service Pack 2) is required, or a *Unix* platform (e.g., *Red Hat Enterprise Linux*, or *Sun SPARC Solaris 8* or *9*). Licenses for the *Oracle* database and backup software are also required. Multiple high-end servers are required in order to course availability 'up-time'. In addition, a support staff with the specific skills for planning, implementing and running *WebCT* courses is needed. Migration from one version of *WebCT* to another is not only costly, but can evidently be time-consuming. Upgrading from the now outdated Standard Edition (SE) to *Vista* is at least a two-step process, requiring an initial upgrade to CE (McQueen and Fleck, 2003). After moving all of its clients from the SE to the CE, *WebCT* is now seeking to migrate all of its existing clients to *Vista*. Once in *Vista*, courses may have to be modified as content may not be useable once uploaded and unzipped. On the server side, depending on the size of the site, the number of course offered, the number of users, and the number of times they sign on per day, a high-bandwidth connection is needed. On the user side, a good 56k dial-up connection is considered adequate for downloading the GUI interface of the program, though an ISDN or cable modem high-speed connection is no doubt preferable. Aside from having an up-to-date computer, there is no further cost to the user. *Vista* is a Web-based program, so it can be viewed on any of the popular browsers. The more memory available in the work station, however, the better.

## ***Complexity***

As with other integrated course management products, there are so many tools in *WebCT Vista* that a major support effort is required to teach instructors how to use it. The *WebCT* company provides its own user training certificate programme. It is feasible that an institution might regard the costs of running such a complex training program as being better spent on hiring Web designers and other specialists to create a customized in-house solution, which only adds new tools as the teachers and students require them.

## ***Control***

Institutions using *WebCT* are naturally responsible for their own security systems, including firewalls and encryption for password login and backup. User access can be managed through passwords assuring privacy, with varying degrees of access granted to different types of users: faculty, student, and administrator. Administrators can allow users to personalize their password, and instructors can control who has access and who regains access to, e.g., discussion groups and whiteboards. Once in the system, users can personalize the display screen, and instructors can set up courses in order to allow students to progress through the course at their pace and according to their abilities, as defined, for example, by self-assessment activities. Instructors can also make exceptions within a course to allow students to gain access to other areas of the course. User logins can be encrypted with Secure Sockets Layer (SSL) or Private Communications Technology (PCT). Users may be prompted to activate their own encryption certificates, and they may need to customize the settings of their personal firewall and anti-virus software in order for their systems to allow them to access the software. To deal with reliability issues in some browsers (e.g., downloads of .pdf files from secure webpages), institutions can choose to run *Vista* with hybrid encryption. This permits a normal login for regular content pages, and a high-security login for handling sensitive information. Browser pop-up blockers may need to be disabled when using *Vista's* discussion postings, quiz windows and download links.

## ***Clarity***

The *WebCT* display screens are clear and easily navigated. Earlier issues of font size have been overcome in the *Vista* version. Its homepage presents an overview of courses, notices, and calendar events, and gives access to messaging. Viewing video in *Windows Media Player* format, and or *PowerPoint 2002* presentations within the system can be problematic in the *Windows* version (University of Alberta, 2004).

## ***Common Technical Framework***

The *Vista* system currently requires *Oracle 9i RDBMS 9.2.0.3* (Standard or Enterprise) or *Oracle 9iFS CMSDK 9.0.3.2* (EduTools, 2004). Hardware requirements ultimately depend on how large the course site is allowed to grow. The suggested minimum hardware requirements for the database servers are 4x750 MHz or equivalent CPUs for a *Solaris* installation, or Dual PIII-1266 CPU for a *Windows 2000* server or *Linux* installation), 4 GB RAM, 4 GB disk space for *Oracle* software, and 3x18 GB SCSI drives for *Oracle* data. The system does not run on Apple-driven equipment. The minimal browser requirements are *Internet Explorer 5.x*, or *Netscape 6.2*. The vendor offers a number of support services on a pay-by-use basis. These include installation help, and administrative and monitoring tools.

## **Conclusions**

*WebCT Vista* is a fully-featured, complex, and highly expensive learning management system requiring sophisticated institutional support. It has become tailored for large educational and training institutions with huge budgets, and the costs to an institution currently using the *Standard* or *Campus Edition* are likely to rise sharply by 2007, as *Vista* totally replaces these versions. Meanwhile, the technical problems of migrating from one system to the other appear to be considerable. The *WebCT* vendor is apparently making an effort to incorporate user feedback into the system, and such feedback may permit the development of "better practices." There is a

serious difficulty in obtaining access to the system in order to evaluate it as a casual observer, however. It proved difficult for the current student evaluation team to gain access to a trial version of the software, even after contacts with various company representatives over a 4-week period; and the team gained the impression that the vendor's communications are geared for marketing and sales at the institutional rather than the individual level. This is unfortunate, considering the system's massive cost, the need for student feedback in its selection, and the underlying principle of accessibility on which successful distance education is based. With so many comparable open source softwares emerging for course management, containing more varied features than *WebCT*, one has to wonder: how long can such costly proprietary products survive? In the case of *WebCT*, the short answer to this is - possibly two years. If, as has been suggested, the vendor will no longer support earlier versions than *Vista* after 2006, it will either gather massive upgrade payments from many of its clients in the interim, or will lose them altogether to the new OSS systems. So is this *WebCT*'s last attempt to make large amounts of money in the face of the growing OSS challenge, its "last hurrah?"

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**N.B.** Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They can be checked at the Athabasca University software evaluation website: <http://cde.athabascau.ca/softeval/>. Italicised product names in this report can be assumed to be registered trademarks.

*JPB, Series Editor, Technical Evaluation Reports*

## **Appendix**

### **A Response to Technical Evaluation Report # 41 *WebCT: a major shift of emphasis***

*WebCT Vista* and *Campus Edition* are competitively priced in the market place. The various products and license offerings including *Campus Edition*, *Vista Core* and *Vista Enterprise* are specifically tailored to meet the needs of institutions of all sizes - not just "large educational and training institutions with huge budgets." *WebCT Standard Edition* has not been available since 2003. *WebCT Campus Edition* version 6.0 will be released in spring 2005, and will continue to meet the needs of our *Campus Edition* customers for years to come.

*WebCT* has been extremely flexible in developing pricing models to meet the needs of our customers. Pricing has remained flat for *Vista* since its release in 2002. *Campus Edition* increases have ranged from 7 percent - 10 percent per year, and *WebCT* offers customers the option of multi-year contracts that lock in prices over the contract period.

*WebCT* has ALWAYS incorporated the feedback of our customers into the product. There are several very active *WebCT* Advisory Boards who provide us with specifically this type of input, as well as a suggestion box at the website, and input through all of the *WebCT* representatives who regularly visit our customers' campuses.

*WebCT* is financially sound and strong and certainly not in the throes of its "last hurrah."

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December, 13, 2004.

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