

IRR
ODI

THE INTERNATIONAL
REVIEW OF RESEARCH IN
OPEN AND DISTANCE LEARNING

Vol 3
No 1

Editorial

Peter Cookson, Editor
Athabasca University (temporarily in Colombo, Sri Lanka)

As part of the globalization process, pressures are being put to bear on higher education institutions worldwide to increase the relevance of their curricula for their respective societies. While it is difficult to find fault with the need for curricular reform, the rush to rationalization of higher education curricula to satisfy the demands of business and industry for more and better skilled employees may also lead to a paring down of higher education curricula. Within this new global agenda for higher education reform, all too often readiness of higher education graduates to contribute to the productivity and global competitiveness of their respective employing organizations is regarded as the sole litmus test of quality higher education.

In the process of updating and strengthening curricula in the fields related to commerce and science and technology, caution and vigilance are required to prevent inadvertent or intentional concomitant devaluation of studies in the arts, humanities, and social sciences – fields that enable students to gain not only knowledge and competence for work, but also to appreciate and adopt ideals and virtues that contribute to quality of life in general. Restriction of the focus of learning to solely the economic aspects of human existence may have the long-range effect of canceling out any benefits resulting from increasing the work relevance of their studies.

In some countries, open and distance learning institutions are perceived to be more responsive to these curricular reform efforts than conventional campus-based institutions. Additional financing can often be more readily obtained from national and international agencies and development organizations for studies in commerce and sciences and technology than for studies in such areas as humanities, arts, and social sciences. In many countries, both industrialized and developing, such infusions of much needed financial resources to support specific programs of study relating to the world of work undeniably constitute bright spots on an otherwise bleak landscapes of chronic underfunding. But, if open and distance education institutions are to fulfill their broader mandate for construction of humane, just, and free societies, there must be a strong sense of commitment to the broader conceptualization of higher education. Open and distance learning institutions must maintain their commitment to higher education comprehensiveness for both “youngsters,” those part-time or fulltime students between the ages of 18-25 and study, as well as mature adults who, with their multiple social roles, are unable to afford the luxury of fulltime studies. In the spirit of “Man does not live by bread alone,” efforts must proceed to upgrade and revitalize all areas of study. The focus of such efforts should be programs of study that relate not only directly to the labor market, but also those have less immediate relevance but no less long-term value in terms of

preparing students to a society in which there is civic participation, promotion of freedom and peace, concern for the equality of opportunity and general well being of all.

As long as open and distance learning institutions maintain their commitment to the broad goals of comprehensive higher education, higher distance *education* will not devolve into higher distance *training*. This objective can be achieved in several ways. In making undergraduate and graduate programs of study available to distance learners, sufficient program flexibility must be maintained to enable students to enroll in optional courses in the arts, humanities, and social sciences. In launching course and programs relating to commerce and science and technology, course design and development team members can be selected from arts and sciences to ensure integration in the content of pertinent philosophical, ethical, and social dimensions. Learning activities can be designed in such a way as to encourage exploration and cultivation of analytical thinking regarding the ethical and social implications of their current and future work. By incorporating elements of liberal education into the curricula, open and distance education institutions can respond to the need of business and industry for employees who think creatively and critically and have strong problem-solving skills. Such practices will enable students not only to function well in their work roles in their organizations of employment, but also in the many other roles that add quality and meaning to their lives as well as to the lives of those with whom they associate in their families, communities, and societies.

Citation Format

Cookson, Editor, Peter (April, 2002) Editorial. *International Review of Research in Open and Distance Learning*: 3, 1. <http://www.icaap.org/iuicode?149.3.1.1>

An Assessment of the Effectiveness of e-learning in Corporate Training Programs

Judith Strother
Florida Institute of Technology

Abstract

Corporate managers are constantly looking for more cost-effective ways to deliver training to their employees. E-learning is less expensive than traditional classroom instruction. In addition, many expenses - booking training facilities, travel costs for employees or trainers, plus employee time away from the job - are greatly reduced. However, some firms that have spent large amounts of money on new e-learning efforts have not received the desired economic advantages.

Economic Benefits of Corporate e-Learning

Hall and LeCavalier (2000b) summarized some firms' economic savings as a result of converting their traditional training delivery methods to e-learning. IBM saved US \$200 million in 1999, providing five times the learning at one-third the cost of their previous methods. Using a blend of Web-based (80 percent) and classroom (20 percent) instruction, Ernst & Young reduced training costs by 35 percent while improving consistency and scalability. Rockwell Collins reduced training expenditures by 40 percent with only a 25 percent conversion rate to Web-based training. Many other success stories exist. However, it is also true that some firms that have spent large amounts of money on new e-learning efforts have not received the desired economic advantages.

In addition to generally positive economic benefits, other advantages such as convenience, standardized delivery, self-paced learning, and variety of available content, have made e-learning a high priority for many corporations. Much of the discussion about implementing e-learning has focused on the technology, but as Driscoll (2001b) and others have reminded us, e-learning is not just about the technology, but also many human factors.

There is no doubt that corporations are increasing their emphasis on e-learning. Forrester, an independent research firm that helps companies assess the effect of technology change on their operations, interviewed training managers at 40 Global 2500 companies and found that all but one of them already had online initiatives in place (Dalton 2000). A survey of 500 training directors (*Online Learning News*, 2001a) clearly shows the new priorities:

- Sixty percent had an e-learning initiative.
- Eight-six percent had a priority of converting current instructor-led sessions to e-learning.
- Eighty percent will set up or expand knowledge-management programs.
- Seventy-eight percent were developing or enhancing electronic performance support.

ASTD (2002), in its *State of the Industry Report*, noted that the year 2000 marked a new era of growth for e-learning. The events of September 11, 2001, have only accelerated this growth as organizations cut back on business travel, improve their security, and increase their e-learning efforts.

There is always a focus on the fiscal bottom line in corporate training; the comparatively low costs of e-learning are attractive. Even so, more corporations are looking at such options as blended learning, using more than one method of delivery (e.g., e-learning plus traditional classroom delivery of content, to increase training effectiveness), even if it raises costs. However, Clark (in *Online Learning News* 2001b) points out that many training managers are not sure how to find the optimal blend for their corporate training programs. He feels they are making decisions based on programs they are familiar with rather than on concrete information about which programs actually produce effective results.

Barron (2001) observes that learning technology providers have been increasingly able to “demonstrate cost-savings and broader benefits, develop integrated offerings, and propose innovative ways of applying e-learning.” However, how do training managers decide which educational products and which learning technology providers actually produce effective results? How do they balance product quality with training costs? As the new corporate adage goes: “Wise training managers realize the bitterness of poor quality remains long after the sweetness of low price has been forgotten.” To justify making decisions about training programs independently of training cost considerations, managers need concrete measures of program effectiveness. While there is no doubt that we see an increasing number of case studies showing success with e-learning, it is still difficult to find solid research measures of learner achievement in the specialized setting of a corporate training program.

Measuring Results

When we measure the results of e-learning, do we have to evaluate e-learning differently from traditional training methods? ASTD (2000a) points out that current training evaluation techniques and processes can be expanded to include

e-learning as a method of delivery. Indeed, they conclude that the techniques to evaluate e-learning are the same as evaluating other training solutions.

How do we measure the results of e-learning, whatever the delivery method? Using Kirkpatrick's classic model, any training – traditional or e-learning – can be evaluated at four progressive levels (Kirkpatrick 1979). *Level I: Reaction* is a measure of learners' reactions to the course. *Level II: Learning* is a measure of what they learned. *Level III: Transfer* is a measure of changes in their behavior when they return to the job after the training program. *Level IV: Results* is a measure of the business outcomes that occur because they are doing their jobs differently. Phillips (1996) recommends the addition of a fifth level to Kirkpatrick's model where appropriate. The new Level V is a measure of the Return on Investment (ROI), the cost-benefit ratio of training. In this level, the Level IV data are converted to monetary values and then compared with the cost of the training program.

In spite of all the enthusiasm in corporate training programs for e-learning, an An American Society of Training and Development (ASTD) study found that 67 percent of the training directors interviewed do not measure the effectiveness of their net-based programs at all (2000b). This study found that while 95 percent of surveyed organizations gauged trainees' reactions to courses (e.g., how well they liked the courses) [Level I measure], only three percent of respondents make a real effort to measure the business results of training programs [Level IV measure].

While it is still early to draw solid conclusions about measuring the effectiveness of actual learning that takes place as a result of e-learning – especially within corporate training programs – we can analyze the somewhat controversial results that have come out of mainly academic distance learning programs, using Kirkpatrick's Four Levels of Evaluation.

Level I – Reaction

Evaluation at this level measures how the participants in a training program feel about their experience. Are they satisfied with what they learned? Do they regard the material as relevant to their work? Do they believe the material will be useful to them on the job? This level, therefore, does not measure learning; it simply measures how well the learners liked the training session.

How Do Learners Feel?

It is not hard to find learner enthusiasm for e-learning. The majority of 1,002 students who responded to an e-college.com survey said they chose the online

format because of the flexibility and convenience of the program. Comments included: "I love that I have the flexibility to continue to hold a full time job." "To study any time that best suits my busy schedule." "I travel extensively." "I was able to work with my instructor, receive tremendous technical support at all hours of the night and gain the same quality content and evaluation as my peers taking the same class on campus." The survey reports that 75 percent of those students online were employed and 68 percent of the learners worked more than 30 hours per week (ecollege.com 1999). This fact makes this study particularly relevant for corporate trainers who seek to fit e-learning into an already demanding work schedule.

Corporations are beginning to gather more data on how their trainees feel about the use of e-learning technologies. For example, the following results were obtained from an ASTD-Masie Center study involving the experiences of more than 700 e-learners (ASTD 2001):

- Eighty-seven percent preferred to take digital courses during work hours.
- Fifty-two percent preferred e-learning in a workplace office area.
- Eighty-four percent would take a similar e-course if offered again.
- Thirty-eight percent said they generally preferred e-learning to classroom training.

How Do e-Learning Instructors Feel?

This question is really an alternate application at Level I evaluation, examining the trainer rather than the trainee. For example, in a recent survey conducted by ecollege.com (1999), 85 percent of the faculty said their students learned equally effectively online as on campus. Some said their students did even better online than in traditional classroom settings. In another TeleEducation study of 130 faculty respondents, 62 percent said their students learned equally effectively in the online environment; 23 percent of faculty stated that their students learned better online; while 90 percent indicated that they were satisfied with online teaching. One faculty comment was: "Online students participate more, perform slightly better than, and are at least as satisfied as their on campus counterparts. From that I conclude that online education appears to be very effective!" (TeleEducation, 2000).

These are qualitative results – both from the learners and instructors – but what about quantitative results?

Level II – Learning

According to Kirkpatrick, learning is defined as the principles, facts, and techniques that are understood and absorbed by trainees. When trainers measure learning, they try to find out how much the skills, knowledge, or attitudes of their trainees have changed. Measuring learning requires a more rigorous process than a reaction survey. Ideally, both a pretest and posttest are given to trainees to determine how much they learned as a direct result of the training program. While many organizations do not measure at this level, other corporate training centers, such as Sun Corporation's Network Academy, keep careful track of what employees have learned through the use of both pretests and posttests (Bylinsky, 2000).

What Do Research Studies Show about Level II e-learning?

A comprehensive research bibliography on e-learning has received much attention. Compiled by Russell (1999), *The No Significant Difference Phenomenon* provides one of the most frequently quoted rationales for the power of e-learning. This body of research demonstrates that no significant difference can be found no matter what medium is used for learning. In many of these studies, the model is asynchronous learning delivered to the learner on demand. The findings demonstrate that even with no instructor or face-to-face interaction, there are no significant differences in the amount of content learned. A related website, supported by TeleEducation NB, New Brunswick, Canada, includes extracts from more than 355 research reports, summaries, and papers supporting the *No Significant Difference* phenomenon. This is one time that a finding of no significant differences is actually a compelling factor in favor of e-learning. If corporations can get *all* of the advantages of e-learning with the *same* level of results as an instructor-led classroom situation, then the economic advantage for e-learning becomes even stronger.

Wegner, Holloway, and Garton (1999) provide an example of a study showing no significant differences between the test scores of experimental (e-learning) and traditional (classroom-based) students at Southwest Missouri State University. Although there were no statistically significant differences in test scores, this two-semester study yielded qualitative data that indicated that students in the e-learning group had, overall, more positive feelings about their experience than did the control group. This observation is consistent with those found in a number of the "no significant difference" studies.

However, it is becoming more common *not* to find the *same* level of results. While some studies show greater benefits in favor of face-to-face delivery, research results consistently demonstrate superior benefits of e-learning in general. In addition to higher performance results, there are other immediate benefits

to students such as increased time on task, higher levels of motivation, and reduced test anxiety for many learners. Nettles, et al., (2000) report that, while the majority of the 49 studies they examined reported no significant difference between e-learning and traditional classroom education, nearly 30 percent of the studies report that e-learning programs had positive outcomes based on student preference, improved grades, higher cost effectiveness, and a higher percentage of homework completion.

An alternate website to the *No Significant Differences* one, also supported by TeleEducation NB, features comparative studies that *do* show significant differences, most of which report positive results in favor of e-learning. For example, Maki, et al., (2000) evaluated a Web-based psychology course and reported that content knowledge, use of the WWW, and use of computers for academic purposes increased while computer anxiety decreased. Navarro and Shoemaker (1999) reported, “we see that cyberlearners performed significantly better than the traditional learners. Mean score [final exam] for the cyberlearners was 11.3, while the mean score for traditional learners was 9.8. With a t-test statistic of 3.70, this result was statistically significant at the 99 percent level.”

Along these same lines, a California State University Northridge study reported that e-learners performed 20 percent better than traditional learners (TeleEducation 2000). Nelson (2001) reported a significant difference between the mean grades of 406 university students earned in traditional and distance education classes, where the distance learners outperformed the traditional learners.

In a study within the insurance industry, Redding and Rotzien (1999) report that the online group is the “most successful at cognitive learning as measured by the end of course examinations. The results of the study do provide strong support for the conclusion that online instruction for individuals entering the insurance field is highly effective, and can be more effective than traditional classroom delivered instruction.”

Similar results in support of e-learning came from Asynchronous Learning Networks (ALN) (2001), which reported a summary of empirical studies submitted to them. From the 15 papers in which the effectiveness of ALN was compared to that of traditional classroom instruction, two-thirds reported e-learning to be more effective. The remainder of the papers reported no significant difference.

As an extension of the more usual measures of Level II learning, Jonassen (2001) stressed the crucial need to develop critical thinking and other higher order skills among students using e-learning products. Earlier, Bates (1996) noted that: “the potential for developing higher order skills relevant to a knowledge-based society is a key driver in developing computer-based distance education courses.” Examining how learners engage in higher order thinking is the topic of a research study at Massey University in New Zealand. White (1998) examined strategies of 420 foreign language learners at that university and reported that distance learners made greater use of metacognitive strategies – what individ-

uals know about their own thinking – compared to classroom learners, most notably with regard to strategies of self-management and advance organization and, to a lesser extent, revision. In a study of the infusion of technology in education, Serrano and Alford (2000) conducted research that clearly showed that incorporating technology across the curriculum acts as a catalyst for all learners. They concluded that e-learning empowers students to engage actively in language-content learning tasks and to develop higher-order critical thinking, visualization, and literacy skills.

While developing critical thinking and other higher-order skills is undoubtedly a desirable goal in a purely academic setting, it may be less important in the areas of specialized job-related content delivery or skill-building associated with many types of corporate online training programs. This is yet another evaluation issue that needs to be addressed in this arena.

Level III — Behavior

Even well informed, quantitative learning objectives do not typically indicate how the trainee will transfer that learning to job performance. Changed on-the-job behavior is certainly the main goal of most corporate training programs, but measuring this change is a more complex task than eliciting trainees' feelings or measuring their direct learning through test scores. In a number of studies included here, there is an assumed connection between measures of behavioral change and the hoped for consequence: solid business results (Level IV), although in most cases, empirical measurement is lacking.

In their overview of the evaluation process, Bregman and Jacobson (2000) discuss the need to measure business results rather than just evaluate trainee test results. They point out that all important business results affect customer satisfaction, either directly or indirectly. Business results that may increase efficiency or help short-term profits – but do not increase customer satisfaction – are obviously bad for business. These authors claim that changes in customer satisfaction due to training of sales or service personnel are easy to measure by asking the customers of the trainees to compile reaction surveys. Generally, reaction sheets for customers get high response rates; therefore, a valid connection between the effects of training on the employee and how the customer feels about that employee can be made. Bregman and Jacobson summarize that a training program succeeds, by definition, when the training changes employees' behaviors in ways that matter to their customers.

Unilever claims that e-learning helped their sales staff produce more than US\$20 million in additional sales (Hoekstra, 2001) – Level IV evaluation. They track the results of their e-training programs by asking course participants to take part in a teleconference several months after the course. Participants are asked

to discuss how they have integrated their new skills into their work and to share their best practices – Level III evaluation. Uniacke, the person in charge of Unilever’s training program, points out that many results of e-training programs are difficult to measure. For example, he is convinced many employees do not learn new material, but rather they polish their overall skills and customer interaction techniques – still a significant benefit to the company and its overall bottom line.

As a number of authors have pointed out, it seems that traditional trainers incorporate the first three levels routinely in the design of training programs (e.g., see Boverie, Mulcahy, & Zondlo, 1994). In a more recent report on e-learning evaluation, Hall and LeCavalier (2000 a,b) make a strong case for focusing on Level III with job performance-based measures. Their research study of eleven U.S. and foreign companies helped them identify best practices within these companies, which have significant e-learning success stories. They conclude that the most promising strategy for many companies is to focus on Level III to find out what is really effective within e-learning programs.

Level IV — Results

Level IV evaluation attempts to measure the results of training as it directly affects a company’s bottom line – a challenging task for many reasons. Kirkpatrick (1999) noted that the number of variables and complicating factors make it difficult, if not impossible, to evaluate the direct impact of training on a business’ bottom line – and this is just as true for e-learning as for traditional training programs.

While reduced costs, higher quality, increased production, and lower rates of employee turnover and absenteeism are the desired results of training programs, most companies do not address this complex evaluation process. However, some companies strive to make the difficult link between training and improved business results.

Some firms are beginning to measure e-learning results for their sales force in terms of increased sales, as in the Unilever case. In another example, Etera, a nursery supply company, uses e-learning to train its national sales force. Their headquarters claims that an Etera-certified dealer who has gone through the on-line training has 170 percent more sales than an untrained dealer (Zimmerman, 2001).

In a different approach to business results, Bassi’s research (2001) demonstrates that investment in training adds to the value of a company’s shares – a high priority for corporations – and she claims that there is added value regardless of overall market conditions.

Level V — ROI

To use Phillips' ROI calculation as an added level to Kirkpatrick's model requires a lengthy and complex evaluation and calculation process. Using Level IV evaluation data, the results are converted into monetary values and then compared with the cost of the training program to obtain a return on investment.

Phillips (1996) summarizes how Magnavox Electronics Systems Company derives its ROI calculations as it evaluates all five levels of its 18-week literacy program, which covers verbal and math skills for employees. While this is not an e-learning program, it does demonstrate the process of moving through the levels of evaluation, a process that would be equally applicable for the use of e-learning as the delivery method for training content.

- Level 1: Reaction was measured by surveys given after the course was completed.
- Level 2: Learning was measured using the Test of Adult Basic Education.
- Level 3: Behavioral changes were measured using daily efficiency ratings.
- Level 4: Business results were measured through improvements in productivity and reductions in scrap and rework.
- Level 5: ROI was calculated by converting productivity and quality improvements to monetary values.

Caveats

In all of the studies being conducted, how systematically are e-learning results being analyzed and are the appropriate correlations being made? When corporations measure e-learning results, are they measuring the right elements? Even when the results are positive in favor of e-learning, are we obtaining and/or measuring quality learning in areas that matter?

In this very new research field, there are challenges to results on both sides of the issue. Joy and Garcia (2000) warned that many of the earlier studies lack scientific validity because the research designs are seriously flawed. This makes many of those results questionable. They point out that if researchers do not carefully control for the most likely factors explaining the variance in student achievement, one may not find significant differences between experimental and control groups.

Joy and Garcia also stress another crucial point – namely, that it is extremely difficult to develop a solid scientific method for comparing the various delivery

methods. They point out that even if a legitimate scientific model could be designed to properly control for each independent variable, its usefulness for predicting learning outcomes would, in all likelihood, be extremely limited. This implies that the researcher would have to impose artificial controls to produce true empirical results.

In another careful look at previous research, Saba (2000) noted the fact that many of the original studies, while experimental in nature, were not grounded in a theoretical framework. The researchers simply carried out their experiments in which they compared distance learning with traditional classroom content delivery and reported the statistical results. Perraton (2000) agrees and adds that most previous studies have been in the areas of course or program description, audience analysis, cost-effectiveness, methodology, and social context.

Furthermore, Saba reports that a few researchers frame their studies with increasing attention to methodological issues within the framework of the appropriate theoretical foundations. He cites several researchers – such as Smith and Dillon (1999), Cookson and Chang (1995), Gunawardena and Zittle (1997), and Sherry, Fulford, and Zhang (1998) – as those who not only grounded their studies on theoretical foundations in the field of distance learning, but also used new methods of inquiry, such as discourse analysis and in-depth interviews, to obtain more meaningful learner results.

Saba goes further to point out that analysis of such studies has continued to reveal just how complex the study of distance education is because of the many variables involved in any instructional setting plus other elements such as social, economic, and global issues affecting the field.

For the corporate training arena, Bregman and Jacobson (2000) note that

the additional desired outcome of positive business results is notoriously difficult to measure because of the following factors:

- Conducting a rigorous evaluation can be expensive and time-consuming.
- Isolating a direct cause-and-effect relationship between training programs and a business' bottom line is difficult.
- Determining the appropriate outcomes to measure is challenging.

With these caveats about research results in the field of e-learning, how do we arrive at accurate results?

Content Quality Measures

One way to obtain meaningful results is to design more effective assessment methods. According to Driscoll (2001a) “Assessments are the foundation of effective instructional practices and return-on-investment studies. The power of tests and assessments will become exponentially more important with the advent of content management systems and learning management systems.” Indeed, data from assessments should help drive the development of solid content and advanced instructional practices.

As Moore (1999) noted: “One of the few generalizations that can be made about any distance education program – whatever the communications media used and the content level – is that a good monitoring and evaluation system is likely to lead to a successful program, and a poor system is almost certain to lead to failure.” Moore describes the three key features of a good system as follows:

1. The preliminary specification of good learning objectives, with this crucial question at the heart: Did each student produce evidence of having learned what was required as specified in the learning objectives? If not, why not?
2. The construction and handling of assignments, which are the students’ evidence of learning and an important source of feedback for the program.
3. A good data gathering and reporting system and a solid review of all of the data by both instructors and program administrators.

Another way of approaching the attempt to guarantee better results in e-learning programs is to look at content quality measures, i.e., the quality of the online education product itself. The National Education Association and Blackboard Inc. examined case studies of six higher education institutions that provide Internet-based degree programs. Their purpose was to ascertain the degree to which various measures of quality identified in previous studies were actually being incorporated into the policies, procedures, and practices of institutions that have distance education learners. The result was a list of twenty-four benchmarks that they deemed essential to ensuring quality in Internet-based education. These benchmarks were grouped under the categories of institutional support, course development, teaching/learning, course structure, student support, faculty support, and evaluation and assessment (The Institute for Higher Education Policy, 2000).

A new e-learning evaluation method is also gaining support in Canada (ASTD, 2000a). The guidelines, presented in *Quality Standards for Evaluating Multi-*

media and Online Training, have been endorsed by the Canadian government and the Ontario Society of Training and Development. Their model evaluation process was tested at twenty organizations. They first determined an e-learning course's relevance toward an organization's needs, followed by analysis of content quality, usability, and instructional design methodology. According to their developer, Lynette Gillis (in ASTD, 2000a), these guidelines provide a robust and comprehensive set of quality criteria that have been shaped by experts in the field of distance education.

Another effort to address issues pertaining to competences and standards for teachers who design and deliver online courses came from an international conference of the Center for Studies in Advanced Learning Technology (CSALT) and the International Board of Standards of Training, Performance, and Instruction. As a result of this meeting, an initial set of competences and performance statements has been formulated and refined (Spector, Ganesan, Goodyear, & de la Teja, 2001).

Further Research Needed

In the area of e-learning for corporate training, as with university based e-learning, some fundamental questions remain. Burnside (2001) summarized these questions as follows:

1. How does learning actually occur in the human being, individually, in groups, and in organizations?
2. How do we increase students' capacity for learning?
3. What evidence do we have of the benefits of increased capacity for learning?
4. In what ways can we communicate this effectively in every educational act that we do?

Certainly, those involved in e-learning evaluation must continue to examine evaluation strategies. In addition to Kirkpatrick's classic four-level model and Phillip's additional fifth level, a number of alternate evaluation measures are emerging. For example, Holton (1996) recommends an alternative to Kirkpatrick's model. In his model, the impact of intervening variables such as motivation, trainability, job attitudes, and personal characteristics are considered. Other literature from the traditional training literature is also valuable. For example, Todesco (1997), of The Research Centre, interprets evaluation trends and

best practices. Abernathy (2001) challenges us to think outside the evaluation box.

Conclusion

While few people debate the obvious advantages of e-learning, systematic research is needed to confirm that learners are actually acquiring and using the skills that are being taught online, and that e-learning is the best way to achieve the outcomes in a corporate environment. This research must be grounded in solid theoretical precepts to assure that meaningful results are obtained.

Until a more solid research methodology is developed for measuring e-learning results, we can rely on the mainly qualitative feedback from corporations that are using e-learning to deliver their training. Firms praise online training as a cost-effective, convenient, and effective way to deliver corporate education. Early studies seem to demonstrate that e-language-learning in business is a win-win proposition for all – the learner, the corporation, and the customers served by the corporation.

References

- Abernathy, D. (2001). Thinking Outside the Evaluation Box. *ASTD Virtual Community*. [Online] Available at: www.astd.org/CMS/templates/index.html.
- ALN. (2001). Summary of published ALN research studies. *WebCenter for Learning Networks Effectiveness Research*. [Online] Available at: www.ALN.org.
- ASTD. (2002). *State of the Industry Report*. [Online] Available at: www.astd.org.
- ASTD. (2001). *State of the Industry Report*. [Online] Available at: www.astd.org.
- ASTD. (2000a). E-learning evaluation method gains support in Canada, *ASTD Learning Circuits*, July 2000. [Online] Available at: www.learningcircuits.org.
- ASTD. (2000b). Evaluating the Effectiveness and the Return on Investment of E-learning. *What Works Online*. 2nd quarter. [Online] Available at: www.astd.org/virtual-community/research.
- Barron, T. (2001). An e-learning industry update. *ASTD Learning Circuits*, August 2001. [Online] Available at: www.learningcircuits.org.
- Bassi, L. (2001). This Firm Bets on Training. November 2001. [Online] Available at: <http://www.knowledgeam.com/rds.html>.
- Bates, A. W. (1996). The impact of technological change on open and distance learning. Keynote address at *Open Learning: Your Future Depends on It*, Queensland Open Learning Network, Brisbane, Queensland, Australia.
- Boverie, P., Mulcahy, D. S., & Zondlo, J. A. (1994). *The 1994 Annual: Developing Human Resources*. J.W. Pfeiffer (Ed.) San Diego: Pfeiffer & Company.
- Bregman, P., & Jacobson, H. (2000). Searching for answers: Yes, you can measure the business results of training. *Training*. 38(8): p. 68-72.
- Burnside, R. (2001). Education ourselves about education – Corporate training comes of age. *Corporate Universities International*. 7(6). July/August 2001.
- Bylinsky, G. (2000). Hot new technologies for American factories. *Fortune*. 6/26/00. [Online] Available at: www.fortune.com/fortune/imt/2000/06/26/elearning.html.
- Cookson, P. S., & Chang, Y. (1995). The multidimensional audioconferencing classification system (MACS). *The American Journal of Distance Education*. 9(3), p. 18-36.
- Dalton, J. P. (2000, August). Online training needs a new course. *The Forrester Report*, (2000, September 23) [Online] Available at: <http://www.forrester.com/ER/Research/Report/Execer>
- Driscoll, M. (2001a). Building better e-assessments. *ASTD Learning Circuits*.

- July 2001. [Online] Available at: www.learningcircuits.org.
- Driscoll, M. (2001b). Myths and realities of e-learning. Invited address at EDMEDIA 2001: World Conference on Educational Multimedia, Hypermedia, and Telecommunications. June, Tampere, Finland.
- ecollege.com (1999). Survey Finds Online Education Equal to or Better than On Campus Learning: eCollege.com. Study Shows Positive Results for Online Education Based on Feedback From Students and Faculty. [Online] Available at: http://www.ecollege.com/company/news/stories/press_2.html.
- Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *The American Journal of Distance Education*. 11(3), p. 8-26.
- Hall, B., & LeCavalier J. (2000a). The Case for Level 3. *ASTD Learning Circuits*. [Online] Available at: <http://www.learningcircuits.org/nov2000/hall.html>.
- Hall, B., & LeCavalier J. (2000b). *E-Learning Across the Enterprise: The Benchmarking Study of Best Practices*. [Online] Available at: [<http://www.brandon-hall.com/elacenbenstu.html>.]
- Hoekstra, J. (2001). Three in one. *Online Learning*. 5(10), p. 28-32.
- Holton, E. (1996). *HRD Quarterly*. 7(1), p. 5-21.
- The Institute for Higher Education Policy (2000). Quality on the line: Benchmarks for success in internet-based distance education. [Online] Available at: www.IHEP.com/quality.
- Jonassen, D. (2001). E-learning to solve problems. Keynote address at EDMEDIA 2001: World Conference on Educational Multimedia, Hypermedia, and Telecommunications. June, Tampere, Finland.
- Joy, E., & Garcia, F. (2000). Research paper questions 'No Significant Difference' claims, *Journal of Asynchronous Learning Networks JALN*, June 2000.
- Kirkpatrick, D. (1979). Techniques for evaluating training programs. *Training and Development Journal*. 33(6), p. 78-92.
- Maki, R. H., Maki, W. S., Patterson, M., & Whittaker, P. D. (2000). Evaluation of a Web-based introductory psychology course: Learning and satisfaction in on-line versus lecture courses. *Behavior Research Methods, Instruments, and Computer*: 32, p. 230-39.
- Moore, M. G. (1999). Monitoring and evaluation: Editorial. *The American Journal of Distance Education*. 13(2).

Navarro, P., & Shoemaker, J. (1999). Economics in cyberspace: A comparison study discussion paper, University of California - Irvine, Graduate School of Management.

Nelson, G. (2001). Do no harm: A first measure of effectiveness in small distance education programs. *Proceedings of ED-MEDIA 2001: World Conference on Educational Multimedia, Hypermedia, and Telecommunications*. June, Tampere, Finland.

Nettles, K., Dziuban C., Cioffe, D., Moskal, P., & Moskal, P. (2000). Technology and learning: The 'No Significant Difference' phenomenon: A structural analysis of research on technology enhanced instruction. *Distributed Learning Impact Evaluation*. Dziuban & Moskal (Eds.) Orlando: University of Central Florida.

Online Learning News. (2001a). Blending and Spending. *Online Learning News*, 4(13). [Online] Available at: www.vnulearning.com.

Online Learning News. (2001b). Gunk and other blender woes, *Online Learning News*, 4(17). [Online] Available at: www.vnulearning.com.

Perraton, H. (2000). Rethinking the research agenda. *International Review of Research in Open and Distance Learning*. 1(1). [Online] Available at: www.irrodl.org.

Phillips, J. (1996). Measuring ROI: The Fifth Level of Evaluation. *Technical Skills and Training*. April. [Online] Available at: http://www.astd.org/virtual_community/comm_evaluation

Redding, T. R., & Rotzien, J. (1999). Comparative analysis of SDL online training with traditional classroom instruction. Presented at the 14th International Symposium on Self-Directed Learning.

Russell, T. L. (1999). *The No Significant Difference Phenomenon*, 5th ed. Raleigh, NC: North Carolina State University. [Online] Available at: <http://teleeducation.nb.ca/nosignifican>

Saba, F. (2000). Research in distance education: A status report. *International Review of Research in Open and Distance Learning*. 1(1) [Online] Available at: www.irrodl.org.

Serrano, C., & Alford, R. L. (2000). Virtual Languages: An innovative approach to teaching EFL/ESL English as a foreign language on the World Wide Web, *Teaching With Technology: Rethinking Tradition*. Less Lloyd (Ed.), p. 195 – 205. Medford, NJ: Information Today, Inc.

Sherry, A. C., Fulford, C. P. & Zhang, S. (1998). Assessing distance learners' satisfaction with Interaction: A quantitative and a qualitative measure. *The American Journal of Distance Education*. 12(3), p. 4-28.

Smith, P. L., & Dillon, C.L. (1999). Comparing distance learning and classroom

- learning: Conceptual considerations. *The American Journal of Distance Education*. 13(2), p. 6-23.
- Spector, J. M., Ganesan, R., Goodyear, P., & de la Teja, I. (2001). Competencies for online teaching and training. *Proceedings of ED-MEDIA 2001: World Conference on Educational Multimedia, Hypermedia, and Telecommunications 2001*. June, Tampere, Finland.
- teleEducation (2000). Is distance education any good? [Online] Available at: [<http://teleeducation.nb.ca>.]
- Tedesco, A. (1997). From Training Evaluation to Outcome Assessment: What Trends and Best Practices Tell Us. [Online] Available at: <http://learnnet.gc.ca/eng/rescentr/fulltx/outpap.htm>
- Wegner, S. B., Holloway, K. C., & Garton, E. M. (1999). The effects of internet-based instruction on student learning, *Journal of Asynchronous Learning Networks*. 3 (2) November 1999.
- White, C.J. (1997). Effects of mode of study on foreign language learning. *Distance Education* 18 (1), p. 178-196.
- Zimmerman, E. (2001). A Competitive Edge. *Online Learning*. 5 (10), p. E2-E7.

Citation Format

Strother, Judith (April, 2002) An Assessment of the Effectiveness of e-learning in Corporate Training Programs. *International Review of Research in Open and Distance Learning*: 3, 1. <http://www.icaap.org/iuicode?149.3.1.x>

Cooperation vs. Deliberation: Computer Mediated Conferencing and the Problem of Argument in International Distance Education

Michael Davis
Blekinge Institute of Technology, Sweden

Albert Rouzie
Ohio University, USA

Abstract

The idea that Internet-based distance education offers the potential to globalize higher education has not been matched by significant interest in the pedagogical and methodological issues at stake. This essay discusses a two-year experimental course conducted between two college classes in Karlskrona, Sweden and Ohio, in the United States. The goal of this course was to use online debate to augment intercultural understanding. This experiment involved both synchronous and asynchronous computer mediated conferencing (CMC) as well as various types of assignments intended to emphasize the discursive strengths of each CMC form. We discovered, however, that our assumptions about CMC discourse were challenged by the way it developed in our international contexts. Ultimately, we developed and propose a methodology that delimits and makes productive the playful agnostics of synchronous debate by employing asynchronous conferencing for the pre-debate development of common ground and the post-debate development of formal arguments.

Key Terms:

MOO, asynchronous conferencing, international education, collaboration, conflict, argumentation, American studies.

Globalization in higher education is more than “very distant” learning courses: it is a change in mindset.

Pat Maier

According to Donald E Hanna:

The marketplace for learning is becoming global. With new technologies, neither language nor distance is a barrier to access, although cultural norms and patterns are among the formidable obstacles to learning across political and cultural boundaries. (1998, p. 88)

This idea — that “networked learning has created a new flexibility in higher education’s trans-national scope” (Trindade 2000, p. 20) - - has become somewhat of a cliché, but the potential for internationalization and cross cultural learning for distance education remains promising. However, if the promise seems far from being fulfilled, it is not merely a product of institutional resistance, as Pat Maier suggests. Guides to distance teaching might also be a part of the problem, which often lack fully developed pedagogies (Palloff & Pratt 1999, p. 4; Garrison, 2000), and this, in turn, may reflect limitations on the current state of research. While studies have been published on the methodologies of teaching with specific information and communications technology (ICT) media (synchronous conferencing, asynchronous conferencing, hypertext, etc.), and using specific pedagogical techniques, few studies have been conducted on the ways in which various media can most effectively interact. Moreover, virtually all studies deal with local rather than international student bodies. Thus the methodologies they explore and pedagogies they develop have yet to show their applicability to international, intercultural education, precisely the kind of education that — as Hanna and the vast literature on intercultural communication reminds us — offers the greatest challenges to distance teaching.

In 1993 Diana Laurillard, Pro-Vice-Chancellor of Learning Technologies at the Open University, UK, argued that computer mediated conferencing (CMC) was incapable of addressing major steps of the learning process. Despite its age, her book remains one of the few theoretically grounded studies that attempted to prescribe specific combinations of media for specific distance teaching methodologies.¹ According to Laurillard (1993, p. 170), CMC appears to help students develop a sense of shared experience, help students “refine their understanding” and, by means of collaborative tasks, potentially develop self-reflection (pp. 171-173). However, it apparently does not lend itself to the generation or effective distribution of new knowledge (pp. 171-2). Most promoters of online conferencing would disagree, of course, claiming instead that the medium promotes the development of “critical thinking skills” (Palloff & Pratt, 1999, p. 82) and/or learning through the sharing and debate of knowledge and experience (Palloff & Pratt 1999 p. 83; Faigley 1992, p. 185).² Nevertheless, doubts clearly remain about its efficacy (Palmquist 1998, pp. 212-215; Crook 1999, pp.106-109), and we are, as Jean and Geoffrey Underwood write, “just beginning to identify the components of effective [on-line] interaction,” that “facilitate learning” (1999, p. 13).

If this is true, we have not even begun to understand how such “components” will function across the political and cultural borders that have so far limited our teaching and research. What follows is a narrative that aims to contribute to that beginning.

Background

The examples discussed here are the product of a two-year experiment called Cultural Contact. The authors,³ one a North American rhetorician teaching in Sweden, and other a teacher and research who teaches composition in Ohio, conceived of it as an Internet-based forum between our courses using a varying set of Internet technologies. The two of us had become friends in graduate school, both having taught composition courses in computer classrooms. When Michael Davis got a job in Sweden and Albert Rouzie obtained an appointment in Ohio, we began discussing how we might use CMC technologies to bring our students together. We had both experienced the myopic ethnocentricity of college students in the US and now Michael Davis, in teaching an American culture course to Swedish students, discovered that even though his students knew a lot more about US culture than North American students knew about Swedish culture, their understanding was superficial and distorted by stereotypes. We saw CMC as a way to bridge our courses, as an opportunity to get students to learn about people in another culture, to reflect upon their own culture, and to provide them with experiences communicating with an audience with different assumptions. While Laurillard poses a conflict between the methodologies of online discussion and those of knowledge building, we assumed that there was no conflict, and that the goals of Cultural Contact neatly matched the social constructivism of our medium. CMC, we argued at the time, would “naturally” promote the movement from discussion to the generation of new knowledge.

Although the work of Wheeler and Shannon (1995) ought to have given us fair warning, our training and experience in computer-based composition pedagogy had still not prepared us for the logistical difficulties we encountered. In all but the most recent Cultural Contact sessions, Michael Davis’s courses in Sweden were on American culture. The composition courses in Ohio focused on issues raised by the spread of the global economy: the downsizing and exportation of North American jobs, the ecological implications of the market economy, and other such issues. The class size in Sweden was large, making it impossible for all students in the course to be involved, necessitating the creation of an incentive to get enough student volunteers to participate in the month-long sessions. Swedish students who volunteered to participate in Cultural Contact sessions were allowed to substitute their work in Cultural Contact for some of the usually required work in the course. All of Albert Rouzie’s 19 North American students participated as part of the course requirements for his section of first-year rhetoric and composition. Access to computers and time in a computer classroom was greater for the Ohio class. A six- hour time difference made synchronous meetings difficult to schedule.⁴ To complicate matters, the term schedules between the two countries could not have been more different, causing the Swedes to participate in two Cultural Contact sessions to the North Americans’ one.

Despite these obstacles, we became excited at the potential for cultural ex-

change and engaged argument between groups with different assumptions. Both of us had been trained to teach composition through the argument structures of Stephen Toulmin, a modern day leader of rhetorical theory. Toulmin's approach asks writers to consider an array of elements in making successful arguments: particularly evidence, assumptions grounding the claim and evidence, and possible rebuttals and qualifications. From the outset, we viewed our goals as interrelated; like the instructor quoted in Knobel's "The Wired World of Second-Language Education" (1998, p. 39), we felt that cultural exchange and awareness could best be accomplished through rhetorical engagement of argument and that argumentation of sufficient depth would result in increased cultural sensitivity. We would, however, use Toulmin to structure this — as Faigley names it — "agonistic" discourse (1992, p. 185). Consequently for the first Cultural Contact session held during fall 1997, we created deliberative tasks (using an email listserv only) that would engage students in issues of interest to both groups.

Cultural Contact 1: The Laurillard Paradigm

This first session was successful only in terms of cultural exchange. Our students read short articles on censorship, comparative economic systems, and education, and then responded to prompts on each topic over a three-week period, one topic per week.⁵ Writing to each other extensively and personally from the start, students emailed messages to a discussion list, and the messages were archived on a Web page in chronological order. As an experiment in cultural exchange, the session was productive; students prompted each other for cultural information to such an extent that the assigned task was often ignored. While this kind of discursive decentering has long been championed as democratic and empowering to student groups usually silenced by the traditional classroom, the reasoned deliberation that, as Crosswhite reminds us, is one of the essential features of democratic discourse, was sorely missing (Faigley 1992, p. 182; Crosswhite 1996, p. 296). Any debate about student sent "information" was minimal; few topics generated a thread of more than two messages and little more than a superficial level of agreement (or, for that matter, disagreement). Faigley has argued that CMC tends to either Bruffean collaboration or Lyotardian agonistics (1992, p. 185). We got neither one nor the other.

In one of the threads with the most messages addressing "gender equality," we can see one of the common ways in which students responded to each other:⁶

Student X:

Here in Sweden there is a general opinion that we have reached far dealing with gender equality. My opinion, though, is that we haven't come far enough. One way this problem has been dealt with is by

allocation of quotas by sex which in certain cases have been a good thing. But, for me this doesn't mean equality between the sexes. The question weather to give someone a job or not should be based on the skills and knowledge that person has, not on what sex he or she has. Instead of trying to make women work in areas that are male dominated – or vice versa – there should be more emphasis on men's and women's differences. It's better to look for balance in companies, governments etc. by finding what women do best and men do best and take things from there.

Student Y:

I am responding to the message I received on gender equality. I feel that when a person is applying for a job it should be based on skills and qualifications only!!! In the US they say that women have equal rights but when it comes to executive jobs or any job that has a lot of power it usually goes to a man. A woman could be more qualified and have a lot more experience than a man for the position but all that matters to them is the gender of the applicant. I think men are afraid of what might happen if women start gaining more control in the US. I think a lot of them are still old fashioned and feel that a womans place is in the home, not out in the work force. I feel that women should be able to obtain the equal rights that are given to them in the constitution.

There are two key discursive elements here that deserve emphasis. First, while this exchange represents a kind of adjacency pair, and the response demonstrates explicit linking strategy (“I am responding to.”), the reasoning of the response contains no explicit linking. Consequently, it is difficult to see that student Y is expressing disagreement with student X about both the definition of gender equality and the legal means of improving it. Each message displays a relatively, if informally, well-developed chain of reasoning with what Toulmin logic defines as claims, reasons and assumptions. However, because the response avoids links that would create direct, discursive confrontation, the exchange does not lead into anything that could be called collaboration or argument. We named the pattern “associational disagreement,” and it was nearly endemic for the session.

Some critics have argued that this pattern is typical of CMC on the whole (Mann, 2000, p. 185). However, we believed the failure of our students to engage each other was perhaps more likely to relate to our choice and methodological application of CMC technologies. Laurillard writes, “meaning is given through structure... For students to interpret a complex discourse they must be able to apprehend the implicit structure of that discourse” (1993, p. 51). In the following session, we therefore decided to move toward more formalized argument with, as Hawisher and Pemberton recommend, explicit requirements for

exchange (1998, p. 32). We also decided to move the Cultural Contact sessions to a technology that would emphasize this structure: newsgroup style asynchronous conferencing, in which the threads are organized into message trees. If graphically threaded asynchronous conferencing emphasizes discursive structure (i.e., linking) and, in turn, the development of “meaning,” it ought to heighten the level of discursive interaction. Working from the agonistic paradigm of on-line discourse, which assumes that argument is its “natural” form, we assumed that the second Cultural Contact sessions would result in more, well-developed debate. We would, unfortunately, find ourselves disappointed.

Cultural Contact 2: Emphasizing Structure

The technology we chose for the second session of Cultural Contact was a Lotus Notes Domino Discussion forum, which functions essentially as a Web-based newsgroup open only to subscribers. We broke the classes into smaller groups so that the discussions would suffer less sprawl, and we assigned tasks that explicitly demanded reference to Toulmin log. The results, however, were frustrating. Although the graphical interface clearly displayed the threads for both ourselves and our students, (see Figure 1.) the level of direct exchange remained disappointingly low. Despite our efforts to recommend times for the posting of messages, students tended to concentrate their work onto the days they came to campus (in one case, Tuesdays and Thursdays). Consequently, there was little time for the development of long threads and thus “deeper” analysis. Similarly, as messages can be added to any node in a thread at any later date, students often failed to follow the development of a particular debate. Hence, most threads reached no more than six messages, and the few that did tended to show short-lived, intensive activity. An example of this can be seen in Figure 1., in which we find virtually all the thread’s messages to have been posted between February 17 and 20. Furthermore, the forum interface posed some obstacles to the utilization and interpretation of the discursive structure, which lead to a tremendous number of misplaced or unthreaded responses. In fact, the longest “thread” (63 messages) was found under, what Domino called, “Not Categorized.” In other words, potential exchanges were disrupted by lost messages.

Figure 1. Threaded Message Structure for Cultural Contact 2.

The few developed exchanges did show somewhat clearer displays of direct exchange. However, most exchanges avoided them. Instead, these exchanges showed an almost devious tendency to avoid the Toulminesque expectations of the discussion prompts and to focus instead on the mutually supportive sharing of information. What follows is an example. We posted two prompts:

Prompts:

▼ Environment 2

- 34 ▼ First Message -- Environment 2 (Michael Davis 1998-01-21)
 - ▼ Discussion Prompts (Michael Davis 02-17)
 - ▼ Albert's additional questions (Albert Rouzie 02-18)
 - ▼ What should technology do? (mayhugh 02-18)
 - technology and environment (stina 02-19)
 - ▼ Thoughts on Erin's msg (johanna 02-19)
 - ▼ response to Johanna (cole 02-20)
 - ▼ Johanna again. (johanna 02-20)
 - response to Johanna again (cole 02-20)
 - Response to Joanna from Erin (mayhugh 02-20)
 - garbage response (nolan 02-27)

The authors are particularly down on “technology” and its chances of solving our global environmental problems. Do you agree with their argumentation? Are there sections of reasoning that you don’t buy due to lack of support or hyperbolic reasoning? Can you think of counter examples or counter reasons?

The authors spend a lot of time attacking “moderate” proposals for dealing with global environmental problems, but never get around to giving us any practical alternatives (i.e. examples). Why? Can you give some? In what ways would your proposals effect our relationships to the global market? What problems might they set up for the article’s argument?

Here is an excerpt of one of the exchanges:

Student X:

[Student X] here. I just like to say that I do agree with you Erin, that we can’t repair all the damages already done but that technology can help in the process of rebuilding and repair parts of the environment.. I also would like to say that I think people here in Sweden are really good on chosing environmental friendly products. We have several brands only making product that somehow spare the milieu some waste compared to the same products of other brands. Which is good. One thing that bothers me is that very often the green products are much more expensive than the non-green products. And a very good start is also to assort the domestic garbage in environmental safe and un-safe piles or garbarge bins. Do you have a lot of this in America?

Student Y

[Student X] Hi! This is [student Y] and I had to respond to your message. There are many products here in America that are friendly to the environment, but just like Sweden those are the products that cost the most. Prices are dropping slowly and someday environmental-friendly products will be equal in price with other items. That is one of the problems with trying to change the environment, is the cost. Recycling has become quite popular and most homes are equipped with a recycling bin to place out when the trash pick-up comes weekly. Here at school we even have recycling containers allowing students to recycle pop cans, pizza boxes, and used computer paper. The main way that Americans help the environment is through recycling because it does not take excessive amounts of time.

Student X

Thank you [student Y] for your response. It is good to know that people care about the environment. But I am afraid that the domestic recycling garbage bins will follow the toys. With this I mean that after a while it won't be "fun" anymore. I know that the environmental issue will never die. It is a constant problem. I also think it is scary when people don't care what is going on in other countries! Do you have that problem, that Americans only bother about American environment?

Student Y

[Student Y] I agree with you totally. The recycling bins first came out a couple of years ago and since then they have lost their recycling appeal. Americans think about their country first and other countries later. Since the United States is larger than Sweden the problems in the environment are concentrated in the U.S. It is harder for other countries pollution to directly effect the U.S. since it has farther to travel. What every country does probably directly effects Sweden and your country would be worried about other countries environmental concerns. The U.S. is a world leader and they have to set environmental standards and other countries will follow the U.S.'s lead.

This excerpted exchange does reveal significant direct responses. It also reveals that the students have balanced our general expectations for cultural exchange

and the task-specific goals of developmental argument, with the students working out the problematics of a proposal for green consumerism through a process of collaborative knowledge creation. However, most students did not, which is probably why the first question of both prompts that focus far more explicitly on analyzing an argument's Toulmin logic, were by and large ignored by the students. Information sharing was the predominant concern. Moreover, while we cannot say that our students avoided disagreement completely, direct disagreement about their peers' claims and reasons was virtually non-existent. Instead, what we tended to see was the pattern that we also see above and which might be called, corroboration with qualification.

As the sessions progressed, it became clear that our two goals of cultural exchange and rhetorical argumentation, while seemingly well matched, were often in conflict. Frustrated by the lack of challenging claims and counter-claims in students' discourse, we decided to add a limited number of synchronous MOO sessions to the Cultural Contact schedule, a medium that would create a tighter discourse — more immediate and message-dense. Although MOO discourse turned out to be more challenging and, at times, “interinsultive” (George 1990, p. 47), the sheets-to-the-wind breeziness of the MOO sessions often worked against our goals. When sufficiently controlled, students argued effectively in ways that could serve as informal invention for further development in formal composition. The MOO sessions' real virtue, however, appeared to be in encouraging the somewhat reticent Swedish students to come out of their shells, dare disagreement and confront the infamous cultural arrogance, real or imagined, of the North Americans. This uncompromising boldness, which at first we fostered, ultimately worked against the cooperation we had hoped to promote. We had veered from one extreme to another, from cooperative agreement without challenges or conflict to polarizing confrontation. We wanted both but had hoped that neither would dominate. The question that confronted us seemed to be whether or not one CMC technology — synchronous or asynchronous conferencing — would enable that to happen.

Cultural Contact 3: The Limitations of Asynchronicity

In *The Rhetoric of Reason*, James Crosswhite (1996) argues that argumentation can be learned only through reasoned conflict – by questioning and challenging, and the need to formulate responses. Hoping that this immediacy would help foster precisely that kind of argumentative conflict, for the third Cultural Contact session we divided our students into two groups, as a comparative experiment. Some Swedes and some North Americans would meet in a room in DaMOO,⁷ while some would interact (also synchronously) in the Web forum. Both groups were given the same prompts on the values placed on possessions

and the issue of the Americanization of Sweden. In the MOO, students could directly make and support claims about the issues, challenge each other's statements, and get a clearer sense of dialogue — the playful interactions with other's senses of humor and rhetorical styles. Gathered together they could feel each other's verbal presence. The session was peppered liberally with questions, and many of them were answered. In the Web forum, on the other hand, fewer questions were asked and many were left unanswered. For example, one Web forum participant posed some good questions on what can be done about materialism. She wrote:

I think that it is often so that the things that we believe are personal are in fact simply a product of a consumer society. What is your opinion about this, and if you agree than do you think that this will ever change?

She follows by asking what it would be like if the opposite were true, that people were judged positively for having few possessions. These are precisely the kind of questions we valued because they could lead to connecting personal with cultural and mass-mediated spheres. Unfortunately, they elicited no responses. Of course, the lack of any response to this provocative question may be explained by the logistical difficulties introduced by the Web forum interface.

Another example demonstrates that some Web forum messages did lead to productive discourse. One Swede wrote:

Shop till you drop, the motto of the new religion of the later half of the 20th century. The main ways in which we judge each other today are how we dress (or rather what brands our clothes are) and where and how we live.

A North American replied:

I do not think you are totally right. I do not see anything wrong with wanting to spend your money if you earned it, why not enjoy life.

Others weighed in and the result was a compromise (suggesting common ground), that some kinds of spending is acceptable, while others exhibit shallow materialism. In this example, the Web forum appeared to allow students to elaborate and qualify their statements in ways that MOO writers often did not.

The MOO writers dealt with this same issue of consumerism and prejudice, but their style was more terse and confrontational. Because MOOs allow a

nuance in the form of give and take between the interlocutors, the discourse is more impassioned and appears designed to elicit response to create a dramatic effect. Substantial content emerges over many messages and can be judged only from the standpoint of the whole. Swedes, many of whom are reticent, dislike conflict and think assertiveness is boorish, actually came out of their shells in the MOO.⁸ In the Web forum, on the other hand, the Swedes made claims and asked questions, but response was not assured, and the slow pace maintained the polite distance lacking in the MOO. The discourse was less dramatic and impassioned, but each message appeared to be more carefully thought out. More information was exchanged in the Web forum, but the MOO discussion was more argumentative. Obviously this tradeoff suggests that the two venues may be used to complement one another, that each fulfills a different function, and that using one or the other, brings out the risks and limitations of each venue.

Despite the high percentage of purely playful messages typical for an initial MOO session, our first session featured a number of threads and a smattering of claims and challenges on the American dream, the Swedish dream, marriage, and money. An off-task thread erupted about food, and there was a virtual Elvis sighting. By far the longest thread focused on marriage, American vs. Swedish style. Here is an example:

“Why do you americans have to get married so young? is that the american dream?”

This message catalyzed the thread into a bolder more risk-taking dialogue than the Web forum. Although Davis has noted a tendency among Swedes to avoid confrontation, we found this less evident in the MOO sessions because the give and take pace favors short messages that weigh in on an issue. The Swedish students demonstrated that they are capable of hurling barbed messages with the best of them. For example, one Swede exclaimed:

“America the hamburger country — not MY dream!”

Another brought up North Americans’ ignorance of world geography:

“Americans hardly know where the US is situated, isn’t that right, yankees?”

The Nature of Online Discourse

CMC has been commonly considered to be a crossbreed of oral and written discourses, both in terms of linguistic patterning (Davis & Brewer, 1997) and

rhetorical relations (Ong, 1982). Oral discourse, positioned as it is within face-to-face contact, supposedly lends itself to dialogue rather than monologue, polarization rather than accommodation, and informal reasoning rather than formal reasoning. Written discourse lends itself, it is claimed, to the contrary, and virtual discourse falls somewhere between the two. Unfortunately, this nice binary tends to fall apart right around the issue of polarization and accommodation. The hostility we saw in our MOO transcripts form an extension to the perhaps overly discussed flaming “problem,” that certain types of messages shut out participants and shut down shared, reasoned dialogue. Put generally, one can safely say that, in some circumstances, CMC seems to increase polarization and reduce the opportunities for finding common ground (Herring, 1996), while in other circumstances it seems to have the exact opposite effect (El-Shinnawy & Vinze, 1998). The question is why.

To answer that question we need to step briefly away from the original oral-written binary to another: the difference between conversation and argument. According to Connery:

In discussion outside of institutional parameters or established purposive conversation (business meetings and the like), conversation exists for its own sake and it proceeds freely, unregulated by either a success orientation or instrumental or rational efficiency. Participants interrupt, contradict, and digress. At the coffeehouse (or at the corner saloon), unlike a discussion list or a business meeting, one would not ordinarily turn to others and attempt to establish rules for discourse or to demand closure or consensus. (1997, p. 174)

Connery constructs a situation in which argument (rule-bound, purposive discussion) is firmly opposed to conversation (free, open-ended discussion). But conversation – like all speech acts – is always purposive (Austin, 1962) if not explicitly persuasive (Walton, 1992, pp. 81-3), and it is not rule free (Garfinkle, 1967; Heritage & Atkinson, 1984). Moreover, as Douglas Walton reminds us, most argument occurs not under formal conditions (e.g., business meetings) but occurs informally within “everyday” conversation (Walton 1992, pp. 2, 28, 81). In other words, Connery erases the middle ground of informal argument. Is it not possible that what we are seeing in online discourse — particularly in the relatively unstructured format of MOOs — is not merely a crossbreed of “pure” forms but another example of a third form? Perhaps the tensions that we perceive in CMC and its failures to live up to our expectations of formal, reasoned argument are less a product of the argumentative requirements of our assignments and more a product of the “limitations” of informal argument itself.

As Clark and Brennan point out, the fundamental function of informal argument is the determining of mutually accepted “grounds,” the discursive norms that enable conversation to develop and discourse communities to evolve. In the CMC world, we imply a similar claim when we argue that what might be termed

anti-social behavioral issues crop up in online discourse largely because the participants do not know where they are, to whom they are really speaking, and what the conventions of the media are. The logical extension of that argument, therefore, should be that before informal argument can take place the grounds for conversation need to be formed and accepted by the participants. The imposition of discursive standards is not enough. The students in our MOOs and forums should be given the space and time to discover the set of rhetorical relations in which they are to engage.⁹ In the international and cross-cultural context of Cultural Contact sessions, in which the discursive grounds are even less clear than they would be otherwise, this is probably an absolute necessity.

It might be that the non-confrontational messages that made up so much of the first Cultural Contact session and the prompts for cross-cultural information that “clogged” debate in the second set of sessions formed attempts at precisely that kind of discovery.¹⁰ It may be that before reasoned argument can develop to any great length, particularly in cross cultural distance education, CMC must be allowed to grow as in the first Cultural Contact session, through open-ended prompts and invitations to personal response. The best possible media for such an extended conversation is not the message-dense, time-restricted and ethereal world of MOO space, but the more message-sparse and open-ended world of the email listserv or perhaps the Web forum. If conversation is more open-ended than argument, as Connery argues, and if it is often less explicitly purposeful, then it is the asynchronous forum that could help the students build a ground, a “commonplace” for argument.

Cultural Contact 4: Separating Conflict from Cooperation

For the fourth and latest session of Cultural Contact held in fall 1998, we created a syllabus that concentrated all the argumentative tasks into the MOO. For example, we had groups of students research the environmental problems of specific countries, especially global warming, and held a mock Earth Summit in the MOO. The success of each country’s proposals depended on the votes of other groups. We used the Web forum to post pre-debate assignments (i.e., brainstorming; generation of enthymemes) and post-debate assignments (i.e., incorporation of rebuttals into the enthymemes to create Toulmin outlines). The debate prompts provided structured, argumentative tasks, which demanded that students state enthymemes, identify their peer’s assumptions, and respond to them. It is to these debates that we will now turn. This time the Web forum acted as a MOO resource and archive of debate analyses. Although students were encouraged to respond to each other’s analyses via the forum, we saw little interactivity there. The MOO is where all the discursive action took place. Action is what we got. The results were a far more confrontational debate than

we had seen before. Here is the opening section of one of the MOO transcripts:

sajber_guest (“cyber” in Swedish) exclaims, “WE OWN THIS PLACE, SOD OFF!!!”

.....

uninvited_guest exclaims, “you wish!”

zombies_guest says, “we are mean and hungry, we are going to eat you alive”

sajber_guest sets the tone by initiating a wave of anarchistic hostility mixed with playful exchanges, which persists at some level almost for the entirety of the MOO session. For example, over a hundred messages later, the following playful exchange develops:

Dan_and_Posse_guest says, “Swedes, You know just about as little about us as we know about you. We are not all fat, don’t you watch baywatch? We all look like that.”

Instructor asks, “Any rebuttals to the assumption that laws against victimless activities are unfair?”

erika_&_co_guest says, “And you are all running in slow motion on the beach”

Although off-task, the above quote demonstrates a playful exchange confronting the Swedish stereotype of fat Americans. The instructor’s call for a return to task remained unheeded. He made that call several times during the MOO conference, sometimes because the participants just were not interested in getting on task, and at other times, because the on task activities were simply buried beneath the welter of messages.

In subsequent MOO sessions some Swedes discovered their confrontational abilities. The Swedes clearly sought to outrage their peers in the following argument about the child custody rights of homosexuals. In the following excerpt fricansa_guest is a small group of Swedish students sharing a computer, Dan_and_Posse_guest is a North American group, as is traceygroup_guest. First the enthymeme is shaped:

fricansa_guest says, “our enthymeme is that homosexuals shouldn’t have children”

Instructor says, “remember that the claim should claim that something is or is not cool or just. Please phrase your enthymemes that way. Also, include a reason, because . . . “

Dan_and_Posse_guest says, “Jazz is the best form of music because the musicians can actually PLAY their instruments”

fricansa_guest says, “BECAUSE it is not good for the kids”

fricansa_guest says, “the kids can get picked at if they live with two dads...”

Then, when they receive no responses, the following appears:

fricansa_guest says, “we have given the reason and now you are gonna here more...you say you are a christian country.”

....

fricansa_guest says, “why do u have a lot of gays and stuff”

....

traceygroup_guest says, “we have religious choice, everyone is not christian”

fricansa_guest says, “we know but you have god on your bills and stuff”

....

fricansa_guest says, “it is sick with gays”

Coming from students who live in a nation in which gay marriage was legalized almost without controversy and in which it is illegal to publicly threaten any minority group, such comments are dramatically inflammatory. That they are targeted at outraging the North Americans is also clear by the pronouns. The issue is not “us” but “you” people, the North Americans. It is interesting to note that both Frincasa_guest and the earlier discussed sajber_guest are female

participants, suggesting that Herring's recent article on women's tendency to shy away from confrontation in online discourse certainly does not apply here. In our experience, the Swedish women were not pulling any punches. It is important to note that their initial reason for opposing gay marriage refers to possible negative effects on the children of such unions, a point that could be considered reasonable or at least arguable. However, they moved rather quickly from this reason to the expressed assumption that any Christian country should oppose gay marriage on moral grounds as "sick." Although we have no clear rationalization for the gender issues at stake, we do have some for the cultural issues. Despite Dan_and_Posse_guest's claim ("Swedes, You know just about as little about us as we know about you"), Swedes actually have the upper hand when it comes to such contests because they know so much more about North American culture than North Americans do about Sweden's. The cultural dynamics that led the Swedes to use their superior knowledge to exert dominance are complex, suggesting some degree of resentment by the Swedes against the cultural hegemony of the US. The unfortunate result was that the interest in cultural sharing nearly disappeared from this Cultural Contact session, and an important but perhaps undervalued discursive method for building up a shared set of references was lost.

Despite these problems, argument did take place, even if one has to untangle it from the jumble of barbs and cross-wires. What we have seen is that one or two well-developed threads can be expected from an entire online discussion, no matter the medium. These latest MOO sessions can reveal great improvement, depending on the way in which the instructor manages the participants. However there are trade-offs. The particularly hostile frincasa_guest transcript saw nearly a hundred messages before the instructor took charge of the discourse, and all topics were dealt with simultaneously. The participants posted their enthymemes and then challenged their peers' postings as they saw fit. The chaos of the session is largely to blame for this limitation, simply because the swirl of "extraneous" messages prevented concentrated exchange or extended development. In contrast, the less hostile session held simultaneously in another MOO "room" resulted in much longer threads, because the instructor imposed a discussion time-table early in the session so that one topic would be dealt with at a time. Students lost the discursive freedom that the other instructor provided and which some see as the ideological justification for online discourse. One student even went so far as to call the instructor a "dictator."

The length of the threads is not everything, of course, and in both threads the more structured prompt clearly resulted in a greater focus on argumentation. Students clearly practiced formulating enthymemes, successfully identifying unstated assumptions and attacking them. They also engaged in what might be termed "MOO forensics." A thread on marijuana, for example, revealed reasonable argumentative depth, with the dialogical development pattern of rebuttal and counter-rebuttal going through nine exchanges. In each case, the argumentative goals of the assignment were met to a certain degree, and we experienced

a much greater degree of argumentative intensity and development. By those standards, the MOO conferences should be considered a success, particularly if we do not expect online deliberation to go beyond the depth of informal argument.

As mentioned earlier, while we asked students to respond to each other's MOO argument analyses, they tended not to. Consequently, the essays they ultimately produced rarely discussed their peer's analyses. Moreover, as the analyses were almost universally less agonistic and more conciliatory than the MOO transcripts, the essays generally emphasized student disagreements and differences. Argument had overwhelmed any process of cooperation. We concluded that an analysis of a MOO conflict's logic should not be an end, but rather a means to an educational relationship; the recognition of discord's depth should not form final "commonplaces." We nervously chuckle at one of us being called a dictator, in part because we do not want that to be the memory that lives after us as teachers. We ought to similarly be made uncomfortable by the thought that the memory, which lives after a forum like Cultural Contact session is not a coalescence, but a separation, a series of ruptures rather than the collaborative art of bridge building.

We realized that we must give our students a methodology for transforming the discovery of a logical problem's depth into the beginning of that problem's solution, to move from conflict analysis to conflict mediation. The commonplace created through this process would be truly shared by the participants, a common-ground formed by their attempts at what Michael Gilbert (1997) calls "coalescent argumentation."

In *Artificial Morality*, Peter Danielson proposes that ethical societies — groups that interact cooperatively — can derive from within the assumptions of evolutionary game theory. As he summarizes his argument, "social evolution can be trusted to solve some difficult social dilemmas if some participants can constrain themselves, identify other' cooperative dispositions, and use them to discriminate whose behaviors they accept" (1996, p. 72). While some of this process can be recognized in our enthymeme-analysis assignment, much cannot. This is, in part, because the assignment failed to impart a cooperative goal for the analysis of assumptions. Rather the students sought to merely challenge and question them. As Crosswhite convincingly argues, such tasks are necessary for the proposer of claims, if she is going to gain a better understanding of the foundations, strengths, and weakness of her position. However, a more constructive pedagogy would want to transform argumentative confrontations into the grounds for cooperation. If such a transformation is to be based on a principle of gradual, social evolution, we think it is fair to ask if the MOO is the right medium of CMC.

We want to propose that the ultimate function of Cultural Contact CMC should be to radically emphasize "practical reasoning," the choosing of a course of action on the basis of one's rhetorical situation (Gilbert, 1997, p. 210). Moreover,

its goal should not merely be the discovery of tensions and differences, but a move toward conflict resolution. Such a process would place MOO confrontational discourse at its center, but would place asynchronous forum discourse on either side as a means for the evolution of cooperative grounds on the one side, and a means for less cooperatively intended arguments on the other. In this way, we might utilize the strengths of both venues and find the most constructive balance for the goals of Cultural Contact: practicing argumentation informed by cross cultural understanding and cross cultural understanding informed by argumentation.

Conclusion

To take this a step further, we need to imagine more clearly how an assignment could use asynchronous and synchronous forums for conflict and cooperation. Over the course of our four Cultural Contact sessions, we found our students most responsive to culturally oriented readings, assignments, and discussion prompts. A cultural orientation need not preclude controversial issues such as assisted suicide, the death penalty, gay rights, censorship of extremist ideas and pornography, socialized medicine, and so on, since, in our case, the two countries' policies and attitudes on these issues are so different. But for both cooperative and conflictual rhetoric to prevail, the assignment needs to explicitly require give and take. Students on each side must depend on the communication of information and arguments from the other to be able to deliver on their project.

To this point the greatest success we experienced in this regard centered on the analysis of North American and Swedish magazine ads. We used both of our course Web sites to post digitally scanned magazine ads, some chosen by Swedes, some by Americans, and used the Web forum for the posting of assigned ad analyses. This led to two small group MOO sessions discussing how the ads work and the cultural differences between the American and Swedish ads. Some interesting differences emerged: In discussion of an American ad for vacation in Jamaica, typically devoid of anything particularly Jamaican, North Americans defended the ad's appeal to tourist hedonism, while some Swedes were critical of its assumption that tourists visit such countries only for fun in the sun. Some Swedish ads baffled Americans and vice-versa. An ad for a tortilla mix generated much discussion. The ad featured an image of thirty-something Swedish couples making the tortillas together at a party. The Swedish students had to explain why Swedes might find this appealing, and this led to a discussion of gender roles (a man cooks the tortillas). Similarly, a multi-page Nike ad that exhibited nude athletes caused confusion among the Swedes when it was not readily apparent what nudity had to do with the product being sold. A Swedish beer add presented a photo of the frozen northern Lapland, an image with considerable cultural resonance for Swedes that utterly befuddled the Ohioans who associate beer not with solitude, but with crowded parties and bars. The

cultural differences and similarities brought out by analyzing and discussing the ads were surprising and yielded significant interchange.

Using this assignment as a starting point, we have begun to develop a more general methodology for the kind of international distance education that Cultural Contact promotes. The assignment has been revised to require that groups of North American students interview Swedish students (and vice versa) about the cultural assumptions (denotative and connotative levels) of consumer advertising. To emphasize its cooperative and social-evolutionary function, we match the task with a simple asynchronous discussion forum. We then ask students to debate issues that we find there in the MOO, thus encouraging the students to explore and challenge their differences. The transcripts are then posted to the forum for study. To develop and formalize the level of understanding and argumentation, the students then write analyses that compare the ways in which the two cultures' employ and react to the ads, based on specific cultural assumptions they discovered in the interviews and debates. These essays are posted to the forum, and finally, to promote their coalescent function, we ask the students to respond to their peer's work, as well as the online learning process as a whole, using, once again, the discussion forum. By alternating between asynchronous and synchronous CMC technologies in this way, we utilize them for their most appropriate discursive ends. By encapsulating the synchronous within the asynchronous, we attempt to set up and intercultural collaboration and deliberative agonistics toward a greater understanding of each other's culture, as well as their own.

If successful — and our most recent experiments hint that it will be — this pattern of encapsulation and alternation can provide an important model for computer-assisted distance education in the humanities, one that recognizes the complexity of our students' relations to online discourse, as well as the global, discursive environment in which they increasingly act.

References

- Atkinson, J.M. & Heritage J. (Eds.). (1984). *Structures of Social Action: Studies in Conversation Analysis*. Cambridge: Cambridge University Press.
- Austin, J.L. *How to Do Things With Words*. (1962). Cambridge, Mass: Harvard University Press.
- Clark, Herbert H. & Brennan, Susan E. (1991). "Grounding in Communication." In *Perspectives on Socially Shared Cognition*.
- Lauren B. Resnick, John M. Levine, & Stephanie D. Teasley (Eds.) p. 127-149. Washington, DC: American Psychological Association.
- Connery, Brian A. (1997). "IMHO: Authority and Egalitarian Rhetoric in the Virtual Coffeehouse." In David Porter (Ed.). *Internet Culture*. p. 161-180. London: Routledge.
- Crook, Charles. (1999). "Computers in the Community of Classrooms." In Karen Littleton and Paul Light (Eds.). *Learning with Computers: Analysing Productive Intereaction*. p. 102-117. London: Routledge.
- Crosswhite, James. (1996). *The Rhetoric of Reason: Writing and the Attractions of Argument*. Madison: The University of Wisconsin Press.
- Danielson, Peter. (1992). *Artificial Morality: virtuous robots for virtual games*. London: Routledge.
- Danielson, Peter. (1996). "Pseudonyms, Mailbots, and Virtual Letterheads." In Charles Ess (Ed.). *Philosophical Perspectives in Computer-Mediated Communication*. p. 67-94. Albany, NY: SUNY Press.
- Davis, Boyd H. & Jeurtonne P. Brewer. (1997). *Electronic Discourse: Linguistic Individuals in Virtual Space*. Albany, NY: SUNY Press.
- El-Shinnawy, Maha & Ajay S. Vinze. (1998). "Polarization and Persuasive Argumentation: a Study of Decision-Making in Group Settings." *MIS Quarterly* 22.2: p. 165-99.
- Faigley, Lester. (1992). *Fragments of Rationality: Postmodernity and the Subject of Composition*. Pittsburgh: University of Pittsburgh Press.
- Garfinkel, H. (1967). *Studies in Ethnomethodology*. Englewood Cliffs, N.J.: Prentice-Hall.
- Garrison, Randy. (2000). Theoretical Challenges for Distance Education in the 21st Century: a Shift from Structural to Transactional Issues." *International Review of Open and Distance Learning* 1.1: p. 1-17. [Online] Available at: <http://www.irrodl.org/v1.1.html>.

- George, Laurie E. (1990). "Taking Women Professors Seriously: Female Authority in the Computerized Classroom." *Computers and Composition* 7: p. 45-52.
- Gilbert, Michael A. (1997). *Coalescent Argumentation*. Mahwah, NJ: Lawrence Erlbaum Publishers.
- Hanna, Donald E. (1998). "Higher Education in an Era of Digital Competition: Emerging Organizational Models." *Journal of Asynchronous Learning Networks* 2.1: p. 66-95.
- Hawisher, Gail E. & Michael A Pemberton. (1998). "WAC Encounters Asynchronous Learning Networks." In Donna Reis, Dickie Self and Art Young (Eds.). *Electronic Communication across the Curriculum*. p. 17-40. Urbana: National Council of Teachers of English, 1998.
- Haynes, Cynthia. (1998). "Help! There's a MOO in This Class!" In Cythia Haynes and Jan Rule Holmevik (Eds). *High Wired*. p. 161-176. Ann Arbor: Michigan University Press.
- Heritage, J. & Atkinson J.M. "Introduction." Atkinson and Heritage. p. 1-15.
- Herring, Susan. (1996). "Posting in a Different Voice: Gender and Ethics in CMC." In Charles Ess (Ed.) *Philosophical Perspectives in Computer-Mediated Communication*. p. 115-146. Albany: SUNY Press.
- Knobel, Michele, Colin Lankshear, Eileen Honan, & Jane Crawford. (1998). "The Wired World of Second-Language Education." In Ilana Snyder (Ed.). *Page to Screen: Taking Literacy into the Electronic Era*. p. 20-50. NY: Routledge.
- Laurillard, Diana. (1993). *Rethinking University Teaching: a Framework for the Effective Use of Educational Technology*. Routledge: London.
- Mann, Chris & Fiona Stewart. (2000). *Internet Communication and Qualitative Research: a handbook for Researching Online*. London: Sage Publications.
- Ong, Walter. (1982). *Orality and Literacy: The Technologizing of the Word*. London: Methuen.
- Palloff, Rena M. & Keith Pratt. (1999). *Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom*. San Francisco: Jossey-Bass Publishers.
- Palmquist, Mike, Kate Keifer, James Hartvigsen, & Barabara Goodlew. (1998). *Transitions: Teaching Writing in Computer-Supported and Traditional Classrooms*. Greenwich, Connecticut: Ablex Publishing Corporation.
- Shannon, Linda K. (1998). "International E-mail Debate." In Donna Reiss,

- Dickie Selfe and Art Young (Eds.). *Electronic Communication Across the Curriculum*. p. 151-161. Urbana: National Council of Teachers of English.
- Sweden. (1986). The Swedish Immigration Board. *Sweden: a general introduction for immigrants*. Norrköping: The Swedish Immigration Board.
- Trindade, Armando Rocha, Hermano Carmo & José Bidarra (2000). "Current Developments and Best Practice in Open and Distance Learning." *International Review of Research in Open and Distance Learning* 1.1: p. 1-25. [Online] Available at: <http://www.irrodl.org/v1.1.html>.
- Underwood, Jean & Geoffrey Underwood. (1999). "Task Effects on Collaborative Learning." In Karen Littleton and Paul Light (Eds.). *Learning with Computers: Analysing Productive Intereaction*. p. 10-24. London: Routledge.
- Walton, Douglas N. (1992). *Plausible Argument in Everyday Conversation*. Albany, NY: SUNY Press.
- Wheeler, C. Bradley, Joseph S. Valacich, Maryam Alavi, & Doug Vogel. (1995). "A Framework for Technology-mediated Inter-institutional Telelearning Relationships." *JCMC* 1.1. [Online] Retrieved Oct 1, 2001: <http://www.ascusc.org/jcmc/vol1/issue1/index.html>.

Endnotes

1. Laurillard herself claims that her analysis “is not a prescriptive process.” Rather it “suggests which media [each discursive process] should be combine with” (1993, p. 176). This distinction is, to say the least, unclear.
2. Composition and language teachers also emphasize the importance of the medium’s effect on the development of writing skills. See, for example, Shannon (1998, p. 154) and Palmquist (1998, p. 125).
3. The names have been temporarily replaced with asterisks to maintain anonymity for purposes of publication review.
4. Pallof and Pratt emphasize the problems of time zone in their discussion of international distance education (1999, p. 46). In the context of the other scheduling, institutional and educational clashes, time-of-the-day scheduling was perhaps the easiest to resolve.
5. Here is an example of an early Cultural Contact discussion prompt:

The United States is very tolerant of violence on broadcast television, while Sweden is not. Sweden, on the other hand, allows soft-core erotic movies to be shown on broadcast television, while the United States does not. Which nation has it right? Why? Support your claims with reasons, examples and, perhaps, warrants.

6. Spelling appears exactly as in the transcripts. Some messages have been deleted, signaled by an ellipsis.
7. DaMOO is an educational MOO operated out of California State University at Northridge. For further information, see their Web site at: [<http://damoo.csun.edu/>.]
8. As Sweden: a General Introduction to Immigrants reassuringly reads, “You will notice that Swedes do not readily show their feelings, but this does not mean they have none” (Sweden, 1986, p. 13).
9. This point is emphasized by researchers in MOO pedagogy (ex. Haynes and Holmevik, 1998, pp. 161-176).
10. The second set of sessions involved the same class or Swedes but two separate classes of North Americans.

Citation Format

Davis, Michael & Rouzie, Albert (April, 2002) Cooperation vs. Deliberation: Computer Mediated Conferencing and the Problem of Argument in International Distance Education. *International Review of Research in Open and Distance Learning*: 3, 1.
<http://www.icaap.org/iuicode?149.3.1.x>

Distance Learning for Food Security and Rural Development: A Perspective from the United Nations Food and Agriculture Organization

Scott McLean
University of Saskatchewan Extension Division

Lavinia Gasperini
Extension, Education and Communication Service, United Nations Food and Agriculture Organization

Stephen Rudgard
WAICENT Outreach Programme, United Nations Food and Agriculture Organization

Abstract

This article introduces the work of the United Nations Food and Agriculture Organization (FAO), and describes its interest in the application of distance learning strategies pertinent to the challenges of food security and rural development around the world. The article briefly reviews pertinent examples of distance learning, both from the experience of FAO and elsewhere, and summarises a complex debate about the potential of distance learning in developing countries. The paper elaborates five practical suggestions for applying distance learning strategies to the challenges of food security and rural development. The purpose of publishing this article is both to disseminate our ideas about distance learning to interested professional and scholarly audiences around the world, and to seek feedback from those audiences.

Introduction: FAO and Distance Learning

The mission of the Food and Agriculture Organization of the United Nations (FAO) is to help build a food-secure world for present and future generations. The achievement of this mission depends upon the capacities and actions of a globally distributed set of individuals, organisations and communities. While a range of factors determines such capacities and actions, education and learning are widely recognised as important components of development. Since its inception, FAO has played a significant role in producing, managing and disseminating knowledge for processes of education and learning of importance to

food security around the world. The Organization has adopted five corporate strategies to guide its activities over the next fifteen years:

1. Contributing to the eradication of food insecurity and rural poverty.
2. Promoting, developing and reinforcing policy and regulatory frameworks for food, agriculture, fisheries and forestry.
3. Creating sustainable increases in the supply and availability of food and other products from crop, livestock, fisheries and forestry sectors.
4. Supporting conservation, improvement and sustainable use of natural resources for food and agriculture.
5. Improving decision-making through the provision of information and assessments and fostering of knowledge management for food and agriculture.

The accomplishment of this strategic agenda will necessarily involve processes of education and learning. Over the past decade, there has been a resurgence of international interest in distance learning as a potentially useful strategy for addressing human development issues. This resurgence has been rooted, in part, in the evolution of new information and communications technologies, and, in part, in the improvement of pedagogical and administrative models for facilitating learning at a distance. United Nations agencies have contributed to the resurgence of international interest in distance learning. UNESCO (1997) has issued a policy document encouraging the use of distance learning, at all levels of educational systems, for purposes of development. The World Bank (1999) promotes “innovative delivery” as one of its global priorities for the educational sector. The World Health Organization (1998) promotes the use of “telematics,” including distance health education, in support of its Health-for-All agenda. Both UNESCO [http://www.unesco.org/education/e_learning/index.html] and the World Bank [<http://www1.worldbank.org/disted>] host Internet sites providing information to promote the appropriate use of distance learning. In addition to such policy advocacy and information dissemination functions, many United Nations agencies have employed distance learning strategies through their own programmatic interventions, and provided financial or technical assistance to a multitude of national and regional distance learning projects in developing countries.

FAO has accumulated significant experiences in the field of distance learning. Since the 1960s, FAO has contributed to the development of rural radio as a

medium of information exchange and learning in many African countries. More recently, FAO has used distance learning strategies both for formal education and information dissemination purposes. One example is the ongoing collaboration between FAO and the REDCAPA network. REDCAPA is the “Network of Institutions Dedicated to Teaching Agricultural and Rural Development Policies for Latin America and the Caribbean” (*Red de Instituciones Vinculadas a la Capacitacion en Economia y Políticas Agrícolas en America Latina y el Caribe*). REDCAPA was founded in 1993 through the initiative of the FAO Policy Assistance Division in collaboration with organisations from eleven Latin American and Caribbean countries, and financial support from the government of Italy. The REDCAPA network currently involves 66 universities and other organisations concerned with teaching agricultural economics and policies and sustainable rural development [<http://www.redcapa.org.br>]. Most members are from the region, although several European and American universities take part. REDCAPA’s main objectives are to contribute to the improvement of teaching and research in agricultural economics, rural development and the environment, support institution building, and improve national and international cooperation among its members. Among the various activities implemented to accomplish these objectives, the network coordinates regular distance learning courses on pertinent topics. In addition to its role in the establishment of REDCAPA, FAO has assisted the network financially, and provided training materials and direct support for a number of distance learning courses offered in the areas of food security policy, macroeconomics and gender analysis.

The Information Network on Post-harvest Operations (INPhO) is a second example of FAO experience with distance learning. INPhO is managed and facilitated by the Agro-Industries and Post-Harvest Management Service on behalf of a range of international partners. INPhO provides three basic services [<http://www.fao.org/inpho>]:

1. Information and data bases concerned with a range of post-harvest issues (e.g., storage, transportation, processing, marketing and food safety).
2. Interactive communication services connecting users with one another and with resource people.
3. Links to other electronic sources of post-harvest information.

INPhO’s long-term objective is to contribute to food security and rural development by enhancing post-production systems around the world. The more immediate objectives are to disseminate selected information in a user-friendly way, to facilitate communication between post-harvest actors, and to support decision makers. INPhO’s targeted beneficiaries are small farmers, small enterprises and consumers. These beneficiaries are influenced through intermediary

target groups including governmental institutions, research centres, universities, schools, non-governmental organisations, extension workers and entrepreneurs. INPhO was developed in 1997, became operational in 1998, and has grown into an important network for information dissemination and learning. The INPhO website is a busy one, with over 8,000 hits per day (and 800 user sessions per day) recorded in October 2000. In addition to the website, INPhO disseminates CD-Rom versions of its information services (some 8,000 copies have been produced to date). The interactive communications services involve a question and answer service on post-harvest issues, as well as a structure for moderated and non-moderated email conferences.

In addition to these existing initiatives, FAO is developing several projects with distance learning components. The Fisheries Industries Division is developing a series of three correspondence courses aimed at building local technical knowledge and management skills for sustainable artisan fisheries. The Outreach Programme of the World Agricultural Information Centre (WAICENT) is launching a CDROM-based Information Management Resource Kit to share tools and methodologies with member nations to build their capacity to manage agricultural information.

In the context of its own experiences and growing international interest in the field, FAO is exploring how distance learning could be most usefully applied to the achievement of its mission. This paper represents an important step in such an exploration. It summarises various arguments that have been made concerning the potential of distance learning in developing countries, and then makes five practical suggestions for applying distance learning strategies to the challenges of food security and rural development. The purpose of publishing this article is both to disseminate our ideas about distance learning to interested professional and scholarly audiences around the world, and to seek feedback from those audiences.

Distance Learning and the Developing Countries

The use of distance learning strategies in developing countries is by no means novel. The potential connections between distance learning and development processes have been recognised for decades, as the following passage from Kabwasa and Kaunda (1973, p. 8) demonstrates:

Correspondence education has yet to make an impact in Africa. We feel it is our responsibility to give it as much publicity as we can, so that our people know its potentialities and possibilities, and how they can go about making greater use of it in the development of our continent.

In a recent overview, Hilary Perraton (2000) organises distance learning experiences in developing countries into four categories: (1) non-formal and adult education, (2) primary and secondary schooling, (3) teacher training, and (4) higher education. He provides numerous examples to indicate that countries in Africa, Asia and Latin America have had significant experience with distance learning since at least the 1960s. The following four examples of distance learning programmes related to agriculture have all reached substantial numbers of learners in developing countries, and have been sustained for at least a decade.

First, since the 1960s, “INADES – formation” (*Institut Africain pour le développement économique et social*) has provided non-formal distance learning opportunities to tens of thousands of farmers, extension agents and other agents of rural development in Africa (Dodds, 1999; Perraton, 2000). Courses for farmers include those on agricultural production and animal husbandry, as well as those on basic mathematics, management, marketing, credit and cooperatives. For extension agents and other development workers, additional courses are available on communication, extension methods, management and the rural economy. The delivery strategy for “INADES-formation” courses is a combination of print-based correspondence packages with local study groups and tutorial support.

Second, since 1973, the G.B. Pant University of Agriculture and Technology has offered a Correspondence Course Programme to farmers and rural youth in Uttar Pradesh, India (M.P. Singh, 1992, 1999). About 500 learners each year select four courses from a list of seventeen options (fourteen concern the cultivation of particular crops, and one each concern dairy production, insecticide use and fertiliser use). The Programme’s delivery strategy is print-based correspondence. Each course comprises five or six lessons, written in elementary Hindi. Course scheduling is timed to coincide with the seasonal production of the various crops under study. The University has twenty District Extension Centres students may contact for personalised guidance and study support. Non-credit certificates are issued to all students passing end of term examinations in each course.

Third, since 1986, the Women’s Secondary Education Programme of Allama Iqbal Open University has been providing rural women in Pakistan with courses to meet secondary school equivalency and to increase income generating opportunities through building practical skills (Batool & Bakker, 1997). The range of practical courses includes Selling of Home Made Products, Garment Making, Poultry Farming, Food and Nutrition, First Aid, Home and Farm Operations, and General Home Economics. The content of all courses has been designed to reflect the priorities, needs, and prior experiences of adult rural women. All courses are delivered through print-based correspondence methods, and learners receive tutorial support through local study centres. As of 1996, the Programme enrolled about 4,000 learners per semester.

Fourth, since 1988, Wye College of the University of London has delivered an External Programme that uses distance learning to provide learners around

the world with opportunities for graduate study in agricultural development (Bryson & Hakimian, 1992; Pearce & Sharrock, 2000). Currently, over 1,000 learners from over 100 countries are enrolled in a range of programmes rooted in agricultural and environmental economics, management and planning. The Programme initially used traditional correspondence methods, and has recently added an Internet-based learning system for delivery of learning materials, tutorial support, assignment submission and feedback, and opportunities for learner-learner interaction.

The fact that distance learning is an established form of educational delivery in many developing countries does not mean that distance learning is necessarily an effective tool in development efforts. Understanding the past influence and future potential of distance learning for challenges related to food security and rural development is not an easy task. Substantial literature has emerged that either describes or evaluates the past experiences and future potential of distance learning in developing countries (Arger, 1985, 1990; Bilham & Gilmour, 1995; Daniel, 1990; Dodds, 1996; Farrell, 1999; Guy, 1991; McAnany et al., 1983; Perraton, 2000; Shrestha, 1997a, 1997b; UNESCO, 1997; Young et al., 1980) or in particular regions such as Africa (Chale & Michaud, 1997; Phillip, 2000; John, 1996a, 1996b, Saint, 1999; UNESCO 1990, 1991, 1995). In these and other publications, a range of general claims has been made about the strengths and limitations of distance learning in developing countries. Many of these claims contradict one another. Table 1 indicates that there is no overall consensus about distance learning in developing countries.

Table 1. The Case For and Against Distance Learning in Developing Countries

What can we conclude about distance learning as a means to promote rural development and food security? With regard to its track record, distance learning has had both successes and failures in developing countries. The lengthy list of problems and disappointments identified by critics of distance learning would lead to a pessimistic conclusion, unless one recognises that conventional alternatives in developing countries have also, at times, been unable to provide adequate levels of educational access, equity and quality (Perraton, 2000, p. 198). With regard to its future potential, distance learning seems to be a promising response to certain educational challenges, but it should not be seen as a panacea. Many institutions in developing countries are steadily increasing their capacity to engage in distance learning, and appropriate technological innovations are being used in many contexts.

Practical Suggestions for Distance Learning

The appropriateness and effectiveness of distance learning depends on why, how, and how well it is designed and delivered. Distance learning initiatives should

be undertaken for appropriate reasons, and in a manner that is suitable to the stakeholders of the initiative. Organisations undertaking distance learning initiatives must have the capacity to do so, and must invest or obtain the necessary resources in order to do it well.

The claims listed in Table 1 are rooted in specific experiences of distance learning in contexts pertinent to food security and rural development in developing countries. Some of these experiences are from within FAO, but most are described in the literature cited in the last section of this article. By analysing these past experiences, it is possible to distil important lessons that have been learned. Paying attention to those lessons is a first step in creating an approach to distance learning that would enable FAO to act appropriately in this challenging field.

Distance Learning for the Right Reasons

Meacham (1993, p. 227) suggests that distance learning initiatives have been undertaken in developing countries for political or commercial purposes: “Apart from the obvious purpose of teaching more people more effectively, distance learning systems have been used to impress donors, placate ministers, justify consultancies, and even sell technologies.” In the context of the contemporary development of new information and communication technologies, there is a danger that distance learning initiatives can be driven by the availability of innovative technologies (and the desire to be seen using them), rather than by the educational needs of individuals and communities. Phillip (2000, p. 42) argues:

Starting with the real needs of communities cannot be stressed enough. There is a strong tendency in the donor community to start with the technology rather than with the needs of the community and to ask the wrong questions. The important question is not “*Can the Internet be used to provide distance learning to communities?*” The important question is “*What is the most appropriate, cost-effective and sustainable way to address the educational needs of communities?*”

The FAO undertakes distance learning initiatives in support of its strategic objectives. In the struggle for food security and rural development around the world, distance learning should be conceptualised as a means to an end, and not an end in itself.

Distance Learning that is Sensitive to Context

There is no universally appropriate model for designing and delivering distance learning initiatives. The potential target audiences for distance learning initiatives in which FAO might become involved is broad indeed, ranging from agricultural producers and marginalised rural populations, to relatively privileged urban professionals such as policy makers and information managers. It is essential that the form of distance learning selected be appropriate to the particular context in which it is being applied.

In a study of South Africa, Geidt (1996) identifies significant practical challenges that indicate adult basic education at a distance cannot function on an open university model adopted from the United Kingdom. Communities most in need of adult basic education provision in South Africa tend to have the following characteristics: slow and unreliable postal systems, few and unreliable telephones, lack of access to television, lack of electrification, poor road conditions, few and inadequate libraries, and inadequate school or other public facilities for studying. In addition to these infrastructure challenges, Geidt (1996, pp. 16-19) identifies several social and economic characteristics of disadvantaged communities in South Africa that make an open university style of distance learning unlikely to succeed. First, many people live in crowded housing conditions, and as a result learners do not have easy access to appropriate conditions in which to study. Second, written texts are not commonly used in day-to-day life; as a result learners are not accustomed to critically interpreting textual messages and constructing written responses. Third, previous school experiences of most learners are of rote learning, and as a result learners must make a difficult transition to become independent and critical learners. Fourth, there is tremendous cultural and linguistic diversity; as a result, many learners may have difficulty with the language and culture of standardised instructional materials. Geidt (1996, pp. 14-15) concludes that distance learning can only be effective when its delivery system and curriculum are appropriately matched to the social and political context of the learners. In the case of adult basic education in South Africa, Geidt (1996, pp. 19-20) suggests that a substantial component of face-to-face support is essential, and identifies several means through which such support could be provided (e.g., community-based tutors, community learning centres, and regional study centres).

One model of distance learning cannot be appropriate to all potential target groups of interest to FAO. Distance learning models and practices must be adapted to the social, cultural, economic and political circumstances of learners and their environment. As with other forms of educational activity, it is important to integrate gender analysis into the planning and implementation of distance learning initiatives.

Distance Learning that Uses Existing Infrastructure and Has Sustainable Costs

One disturbing tendency in the history of distance learning in developing countries is the large number of initiatives that demonstrate significant learning outcomes and programmatic success during pilot projects, but are not sustained or replicated on a larger scale after the pilot project is complete and donor funding is withdrawn. While the lack of sustainability and scalability may reflect a number of variables, it is frequently related to the use of inappropriate delivery strategies. The failure of many educational television projects in developing countries in the 1970s and 1980s is an example of what Meacham (1993, p. 227) calls “technological overkill” in distance learning. This phenomenon refers to the use of expensive and complex delivery strategies when inexpensive and simple alternatives could be pedagogically effective. Phillip (2000, p. 25) argues that when it comes to choosing technologies for distance education “...it is essential to take a careful look at the level of infrastructure that the target populations have access to, and the extent to which the same target populations can afford to make use of that infrastructure for educational purposes.” When donors have tried to provide a communication infrastructure for distance learning programmes, such programmes have very rarely been sustainable. Given challenges with the costs and servicing of equipment, educational projects should use technologies that have already been established through entertainment and commercial sectors (Perraton & Creed, 2000, p. 17). With regard to sustainable technology choices, Dodds’ (1972, p. 46) conclusion from nearly thirty years ago is still pertinent: “The installation of new and glamorous media at great expense may be less effective than the careful integration of existing resources.”

The question of technologies and delivery strategy is related to the more general question of the cost-effectiveness of distance learning. Distance learning is sometimes presented as universally more cost-effective than conventional education. Past experiences in both developed and developing countries indicate that this is not necessarily the case. Distance learning has the potential to be, but is not necessarily, more cost-effective than conventional education (Perraton, 2000, pp. 136-138; Rumble, 1997, pp. 203-204; Rumble, 1999, p. 133; UNESCO, 1997, pp. 33-34). A range of factors that contribute to substantial cost differences between different distance learning initiatives are: numbers of learners enrolled, mixture of communication technologies, media and learning materials, degree of learner support and interaction, salaries and employment conditions of distance learning staff, production standards, and institutional working practices and overhead costs. A general conclusion that can be drawn is that distance learning tends to be more economically attractive at higher levels of education (Perraton, 2000, p. 196). This is because the costs of distance learning are relatively similar at all levels, whereas the costs per student of conventional education are higher at higher levels.

Distance learning is not simply an inexpensive alternative to other forms of

educational programming or field interventions. In some cases, distance learning may provide a cost-effective means of reaching target groups of learners, but in other cases conventional face-to-face contact may be more cost-effective. The assumption that distance learning is a low-cost alternative can undermine the quality and impact of distance learning programmes by systematically depriving them of necessary resources.

In the field of food security, organisations should not endeavour to establish independent systems of communication for the delivery of distance learning initiatives. Rather, in each specific case, delivery strategies for distance learning initiatives should be developed according to the communication infrastructure that is currently available, reliable and affordable to the learners who will take part in the initiative. This does not mean that Internet-based delivery strategies must be universally rejected in favour of simpler alternatives such as print and radio. It does mean that the pedagogical strengths of any potential delivery strategy must be carefully assessed according to the practical constraints facing each group of learners. Some target audiences will have ready access to computers and the Internet, while others will not even have electrical power or reliable telephone service.

Distance Learning that Engages Stakeholders

Many of the problems with previous distance learning programmes in developing countries relate to a lack of participation on the part of those individuals and communities who were supposedly the beneficiaries in the design and delivery of the programmes. Guy (1991, p. 169) argues that an appropriate:

conception of distance education would require a focus on programs in which participants have control over not only what is taught, but how and where distance education takes place. It is dependent on the participation of people, who through participatory planning and action, to develop a deeper understanding of their lives and the structures which surround them in time and space.

The need for participatory and empowering educational practice has been identified by FAO in its work in the fields of agricultural education, extension and communication for development. FAO (1999) has published a guide entitled *Participatory Curriculum Development in Agricultural Education*. The guide (FAO, 1999, pp. 70-73) categorises general groups of stakeholders in curriculum development processes as the “insiders” (i.e., leaders with training organisations, teachers, students, producers of educational materials), and the “outsiders” (i.e., policy-makers, politicians, educational administrators, educational experts, employers, professional bodies, clients, funders, parents, past students and special interest groups). Early in the analysis of a potential educational intervention,

it is important to identify the stakeholders, understand those stakeholders' diverse interests, and develop a process through which such stakeholders will be represented in the planning, implementation and evaluation of the intervention. The process of identifying, understanding and involving stakeholders help ensure that distance learning initiatives are undertaken for the right reasons, are sensitive to the contexts of learners and their environments, and are sustainable.

Distance Learning Based on Sound Pedagogical and Administrative Models

The substantial number and range of distance learning experiences accumulated in developing countries can help FAO craft pedagogical and administrative models that avoid replicating some of the fundamental mistakes that have been made in the past. While ideal models and practices have yet to be developed, practitioners and scholars in both the Northern and Southern hemispheres have done much to critically examine distance learning and make its application more appropriate to diverse circumstances around the world. Over the past decade, the practice of distance learning in both developed and developing countries has evolved substantially. In developing countries, Perraton (2000, p. 197) suggests:

The best-run programmes are probably better, more effective, and more interesting for their students than they were a generation back. There is a reasonable consensus on good practice, which will include using a combination of media, ensuring that there is effective tutoring and student support, having an efficient administrative system, and developing clear and well-produced teaching material.

In developed countries, technological change has led to what Garrison (1997) calls the "post-industrial age" of distance education. In higher education, mainstream research universities in the Northern hemisphere are creating models of "distributed education" and "little distance education" as they use networked learning environments that blend distance education with face-to-face instruction (Garrison & Anderson, 1999). There is now increasing sensitivity to gender issues as important variables in the practice of distance education (Burge, 1998). Any organisation contemplating the application of distance learning strategies to the challenges of food security and rural development should be aware of the pedagogical innovations of the past decade. Table 2 identifies a basic outline of best practices in distance learning.

Table 2. Best Practices in Distance Learning

Conclusion: Looking toward the Future

The Food and Agriculture Organisation can be an international catalyst for the learning of a diverse and globally distributed set of individuals, organisations and communities whose capacities and actions influence the achievement of food security and rural development. In collaboration with a wide range of partners, and in conjunction with other methods of intervention, the Organisation can employ innovative and appropriate distance learning methods to accomplish its strategic objectives.

References

- Arger, Geoff (1985). Promise and reality: A critical analysis of the literature available in Australia on distance education in the Third World. ERIC document ED 284 022.
- Arger, G. (1990). Distance education in the third world: Critical analysis on the promise and reality. *Open Learning*, 5 (2), p. 9-18.
- Batool, S. N., & Bakker, S. (1997). Step by step towards success. *Open Learning*, 12 (1), p. 3-11.
- Bilham, T., & Gilmour, R. (1995). *Distance Education in Engineering for Developing Countries*. London: Overseas Development Administration.
- Bryson, J., & Hakimian, H. (1992). The Wye College External Programme and Third World agriculture. In G. Rumble & J. Oliveira (eds.) *Vocational education at a distance: international perspectives*. London: Kogan Page in association with the International Labour Office, p. 102-113.
- Burge, E. (1998). Gender in distance education. In C.C. Gibson (Ed.) *Distance Learners in Higher Education: Institutional Responses for Quality Outcomes*. Madison, Wisconsin: Atwood Publishing, p. 25-45.
- Chale, E. M., & Michaud, P. (1997). Distance Learning for Change in Africa A Case Study of Senegal and Kenya Policy and Research Prospects for the International Development Research Centre (IDRC). [Online] Retrieved August 27, 2001: <http://www.idrc.ca/acacia/03230/04-dlear/index.html>
- Daniel, J. (1990). Distance education and developing countries. In M. Croft et al. (Eds.) *Distance Education: Development and Access*. Papers in English prepared for the Fifteenth ICDE World Conference held in Caracas, Venezuela, November 4-10, p. 101-110.
- Dodds, T. (1972). *Multi-media Approaches to Rural Education*. Cambridge: International Extension College.
- Dodds, T. (1996a). *The Use of Distance Education in Non-Formal Education*. Vancouver, Commonwealth of Learning.
- Dodds, T. (1999). Non-Formal and Adult Basic Education through Open and Distance Learning in Africa: Developments in the Nineties towards Education for All. Vancouver: Commonwealth of Learning.
- FAO (1999). Participatory Curriculum Development in Agricultural Education: A Training Guide. Rome: FAO.

- Phillip, B. (2000). *Distance Education in Africa: New Technologies and New Opportunities*. Washington: Japan International Cooperation Agency.
- Garrison, D. R. (1997). Computer conferencing: the post-industrial age of distance education. *Open Learning*, 12 (3), p. 3-11.
- Garrison, D. R., & Anderson, T. (1999). Avoiding the industrialization of research universities: Big and little distance education. *American Journal of Distance Education*, 13 (2), p. 48-63.
- Geidt, J. (1996). Distance education into group areas won't go? *Open Learning* 11 (1), p. 12-21.
- Guy, R. (1991). Distance education and the developing world: Colonisation, collaboration and control. In Terry Evans and Bruce King (Eds.) *Beyond the text: Contemporary writings on distance education*. Geelong: Deakin University Press, p. 152-175.
- John, M. (1996a). Distance education in sub-Saharan Africa: the promise vs the struggle: part 1. *Open Learning*, 11(2), p. 3-12.
- John, M. (1996b). Distance education in sub-Saharan Africa: the promise vs the struggle: part 2. *Open Learning*, 11(3), p. 21-30.
- Kabwasa, A., & Kaunda, M. (1973). *Correspondence Education in Africa*. London: Routledge and Kegan Paul.
- McAnany, E., Oliviera, J.B., Orivel, F., & Stone, J. (1983). Distance Education: Evaluating New Approaches in Education for Developing Countries. *Evaluation in Education*, 6, p. 289-376.
- Meacham, D. (1993). Quality and context in the developing world: fitness for purpose, whose purpose? In T. Nunan (Ed.) *Distance Education Futures*. Adelaide: University of South Australia, p. 221-239.
- Pearce, R., & Sharrock, G. (2000). The Changing face of distance learning. *Staff and Educational Development International*, 4 (1), p. 29-36.
- Perraton, H. (2000). *Open and Distance Learning in the Developing World*. London: Routledge.
- Perraton, H., & Creed, C. (2000). Applying new technologies and cost-effective delivery systems in basic education. In *Education for All 2000 Assessment: Thematic Studies*. Paris: UNESCO, p. 14-18.
- Rumble, G. (1985). Distance education in Latin America: Models for the 1980s. *Distance Education*, 6 (2), p. 248-255.

Rumble, G. (1997). *The Costs and Economics of Open and Distance Learning*. London: Kogan Page.

Saint, W. (1999). *Tertiary Distance Education and Technology in Sub-Saharan Africa*. Washington: World Bank, ADEA Working Group on Higher Education.

Shrestha, G. (1997a). *Distance Education in Developing Countries*. [Online] Retrieved August 27, 2001: <http://www.undp.org/info21/public/distance/pb-dis.html>

Shrestha, G. (1997b). . *Review of Case Studies Related to Distance Education in Developing Countries*. [Online] Retrieved August 27, 2001: <http://www.undp.org/info21/public/review/pb-rev.html>

Singh, M.P. (1992). Experiences from and impact of an innovative correspondence course-based distance education programme in agriculture. *Indian Journal of Open Learning*, 1 (1), p. 11-13.

Singh, M.P. (1999). Professional correspondence courses of University of Agriculture and Technology. In S. Panda (Ed.) *Open and Distance Education: Policies, Practices and Quality Concerns*. New Delhi: Aravali Books International, p. 163-176.

UNESCO (1990). *Priority Africa* (Final Report of the Seminar on Distance Education in Africa held in Arusha, Tanzania from 24 to 28 September, 1990). Paris: UNESCO.

UNESCO (1991). *Africa: A Survey of Distance Education 1991*. Paris: UNESCO.

UNESCO (1995). *Rapport Final: Séminaire Sous-Regional sur l'Education à Distance*. Paris: UNESCO, Secteur de l'Education, Priorité Afrique.

UNESCO (1997). *Open and Distance Learning: Prospects and Policy Considerations*. Paris: UNESCO.

WHO (1998). *A Health Telematics Policy in support of WHO's Health-for-All Strategy for Global Health Development*. Geneva: WHO.

World Bank (1999). *Education Sector Strategy*. Washington: World Bank.

Question?	Proponents For	Critics Against
<i>Can distance learning be quality education in developing countries?</i>	<ul style="list-style-type: none"> • Distance learning offers learners greater flexibility with regard to the time, place and pace of learning • Distance learning is less disruptive to work and family obligations • Conventional education in developing countries is plagued with many problems and cannot fulfil the needs of educational systems 	<ul style="list-style-type: none"> • Isolation from teachers, libraries and other learners makes distance learning inherently difficult • Distractions of work and family make learning difficult • Distance learning in developing countries is hindered by logistical problems, financial constraints, and human resource gaps
<i>Can distance learning improve educational access and equity in developing countries?</i>	<ul style="list-style-type: none"> • Distance learning can reach groups, such as rural learners and women, not adequately served by conventional education • Lower costs associated with distance learning make possible a wider and more democratic reach for educational systems 	<ul style="list-style-type: none"> • Distance learning favours the same relatively privileged groups as conventional education • Distance learning does not necessarily cost less; when distance learning does extend access, it does so by providing education which is poorly resourced and widely regarded as second-rate
<i>What is the role of the</i>	<ul style="list-style-type: none"> • Distance learning 	<ul style="list-style-type: none"> • Distance

Establish a purpose and engage the stakeholders

- The purpose of the distance learning initiative is grounded in a significant issue or problem.
- Stakeholders to the initiative are identified, understood, and effectively represented in processes of analysis, planning, implementation and evaluation.
- Programmatic objectives are defined, and the place of distance learning strategies in the accomplishment of these objectives is identified.

Analyse instructional possibilities and define learning objectives

- Characteristics of the target populations of learners are understood, and the main features of their learning environments are known.
- Substantive content (subject matter) of the initiative is well understood, and desired learning outcomes (changes in knowledge, skills and attitudes) are stated.
- Concrete learning objectives are defined.

Identify resource requirements and marketing strategies

- Fixed and variable costs are assessed and budgeted.
- Adequate resources are mobilised to support the initiative.
- Marketing, recruitment and selection strategies are devised to ensure that an adequate number of appropriate learners take part in the initiative.

Design instructional content and process

- Course development team is assembled to ensure adequate expertise in the subject matter, the instructional design process, and the media of communication to be used.
- Substantive content is organised into short and focused modules.
- Teaching and learning processes are designed to involve a range of instructional methods (e.g., presentation, discussion, tutorials, drill and practice, simulations, group problem solving).

Design delivery strategies and materials

- Potential delivery strategies are identified (print, audio and videotapes, radio and television, teleconferencing, computer-based instruction and computer conferencing).
- Mix of media for the initiative is determined based upon nature of the learners, learning objectives and instructional methods, in the context of the economic and logistical feasibility of different options.
- Educational materials and processes must be designed for each delivery strategy.

Administer teaching and learning at a distance

- Educational materials are produced or purchased, stored and distributed.
- Systems to enable communication between instructors and learners, and between learners and other learners, are developed and maintained.
- Instructors are given orientation, training and support in their role as distance educators.
- Learners are oriented to distance learning, and integrated in student support and record-keeping systems.

Facilitate learning

- Learners enrol and learning materials are delivered to them.
- Learners work toward learning objectives through independent study, and through interaction with instructors and other learners.

Assess learning

- Learner outcomes (satisfaction, learning, behaviour change, impact) are evaluated.
- In formally accredited initiatives, learning is assessed through much the same processes as in conventional education (e.g., examinations, essays, projects, evaluations of practical experience).

Evaluate the initiative

- Pre-testing and formative evaluation of educational materials and processes are undertaken regularly.
- Summative evaluation processes lead to improved planning and implementation activities, and inform the ongoing analysis of the purpose of the initiative itself.

The Development of Social Climate in Virtual Learning Discussion Groups

Avigail Oren

Tel-Aviv University, School of Education

David Mioduser

Tel-Aviv University, School of Education

Rafi Nachmias

Tel-Aviv University, School of Education

Abstract

As the educational use of computer mediated communication (CMC) increases there is growing interest among researchers as to social processes evolving within the varied models of group work using Internet, e.g., special interest groups, topical discussion groups, discussion forums attached to virtual courses, and learning communities. In this paper we present a synthetic summary of five studies that explored social climate issues in synchronous and asynchronous online activities in academic courses, focusing on the following questions: Does a social atmosphere develop in online learning discussion groups? What are the different modes of social interaction are manifest in online learning discussion groups? What is the role of the virtual teacher with regards to the social climate in online learning discussion groups? Discussed are the implications of these five studies' on the design of virtual-learning-discussion-groups, and the results for the characterization of teacher moderation functions.

INTRODUCTION

As the educational use of computer mediated communication (CMC) increases there is growing interest among researchers as to the social processes manifest within the varied models of group work using Internet, e.g., special interest groups, topical discussion groups, discussion forums attached to virtual courses, and learning communities. However, despite the researchers' agreement on the important contribution of social activity to virtual learning processes (see Harasim, 1990 ; Hiltz, 1995; Anderson & Kanuka, 1997; Wegerif, 1998; Chan & Rapman, 1999; Bonk et al., 2000; Sherry, 2000), major issues regarding the social function of virtual groups still deserve in-depth study.

In an attempt to contribute to the understanding of virtual social processes, this article presents a synthetic summary of five studies carried out at Tel-Aviv University's School of Education that explored social climate issues in synchronous

and asynchronous online academic courses. In the following sections we briefly refer to related research, summarize the main findings of the five studies, and integrate these findings in the subsequent discussion of salient issues related to social climate in virtual learning discussion groups.

There is no doubt today that among its many functions the Internet fulfills a powerful social role. Perceived as a social meeting place, it provides opportunities for the development of new modes of interpersonal relationship (Parks & Floyd, 1996). The Web is used for numerous purposes, such as extending one's social network, participating in online virtual communities, finding a marriage partner, and developing successful business relationships. Thus, for Internet users, traditional face-to-face interaction has been complemented by a technology that creates new social genres of interpersonal transaction, and new configurations of group work.

Research on learning processes in face-to-face groups indicates that development of social climate is important in order to make students feel like insiders in the learning environment, thus contributing to students' motivation, involvement and contentment (Chan & Rapman, 1999; Wegerif, 1998). Regarding social climates in virtual groups, early studies dealing with computer mediated relationships led to the conclusion that the network does not contribute to the creation of a social climate. Because the nature of electronic meetings are anonymous and lack environmental features such as physical appearance, non-verbal cues of face-to-face meetings (Sproull & Kiesler, 1991), they were found not to support the development of interpersonal relationships. It was also claimed that in comparison with face-to-face meetings, the relationships established via online communication are more hostile, divisive and uninhibited (Kiesler & Sproull, 1992).

Recent work, however, has raised serious theoretical and empirical challenges to this pessimistic view of Internet-based social relations. Walther (1996) pointed out that perceptual changes of the Internet as a platform for establishment of social relationships, began with the observation that many of the differences between computer mediated and face-to-face interaction, diminished over time. When limitations of time are removed and long term processes are observed, online social groups report levels of commitment and affiliation similar to face-to-face groups. Walther, Anderson and Park (1994) suggested that Internet-based relationships are more intimate and intensive than those maintained in face-to-face settings. It appears that one of the apparent disadvantages of the online relationship, namely anonymity, in fact facilitates self-disclosure without taking risks. It facilitates exploration of diverse perspectives by adopting alternative identities, e.g., the opposite gender, or a rival point of view (Turkle, 1995). Burgules (in press) even refers to these not as false identities, but as extrapolations of aspects of people's actual identities that can now be safely disclosed with the mediation of the technology. This mode of communication also serves as a springboard for formation of intensive, pleasurable, deep and

rich interpersonal connections. In addition, it offers the possibility to abandon obviously distasteful or unsuitable connections, as well as opportunities to enter into simultaneous relationships with a number of people (Schnarch, 1997).

The unique characteristics of Internet-mediated communications have also contributed to the development of novel and varied configurations of group work, from ad-hoc discussion groups to comprehensive learning communities. These models actually imply an expansion and even a transformation of variables, components and processes that characterize traditional collaborative learning (Sharan, 1994). Effects of the use of the technology can be found at a variety of levels, e.g., regarding the *setting* of the activity (e.g., asynchronous, non face-to-face interactions); the *dynamics of the interactions* (e.g., dynamic definition of ad-hoc roles and functions within a group); the *configuration of the group* (e.g., occasional participation according to emerging needs); and the *variety of communication means* used for interacting (e.g., email, chat, collaborative-work tools).

Summarizing the above brief (and partial) survey on social aspects of the Internet we can conclude that: (a) the Internet's characteristics facilitate the development of unique forms of interpersonal and group interaction; (b) recognizing this potential, educators have developed a wide range of models of integration of the technology into group learning processes; (c) there is a growing interest in the social aspects of virtual learning groups; (d) opinions differ as regards to the role of the technology in the creation of the social climate of learning groups; and (e) more research is needed for a better understanding of social processes in virtual learning groups.

In line with these conclusions, the purpose of this article is to report on the findings of a series of studies conducted at Tel-Aviv University's School of Education. The rest of this article comprises two main sections. In the first section, we summarize the results of five studies conducted to explore different social aspects of learning synchronous and asynchronous online learning activities. In the second section we integrate these research results into a discussion of the following questions:

1. Does a social climate develop at all in online learning discussion groups?
2. What modes of social interaction evolve in online learning discussion groups?
3. What is the role of the virtual teacher with regards to the social atmosphere in online learning discussion groups?

THE STUDIES

Five studies were conducted to examine various aspects of the social climate of virtual discussion groups engaged in online courses (both virtual and combined virtual / face-to-face courses). Figure 1 graphically organizes the different aspects of the groups; work considered in the studies. Although the virtual group is a social system characterized by intimate interactions among all its components, each study focused on separate aspects: the social or organizational issues implicit in the social content of students' messages (Study 1); the (real or pretended) identity students and teachers assumed while participating in online discussions (Study 2); the discussion moderation abilities and strategies within the social climate as a whole (Study 3); social interactions among students and teachers in terms of verbal patterns (Study 4); and evolving informality (Study 5).

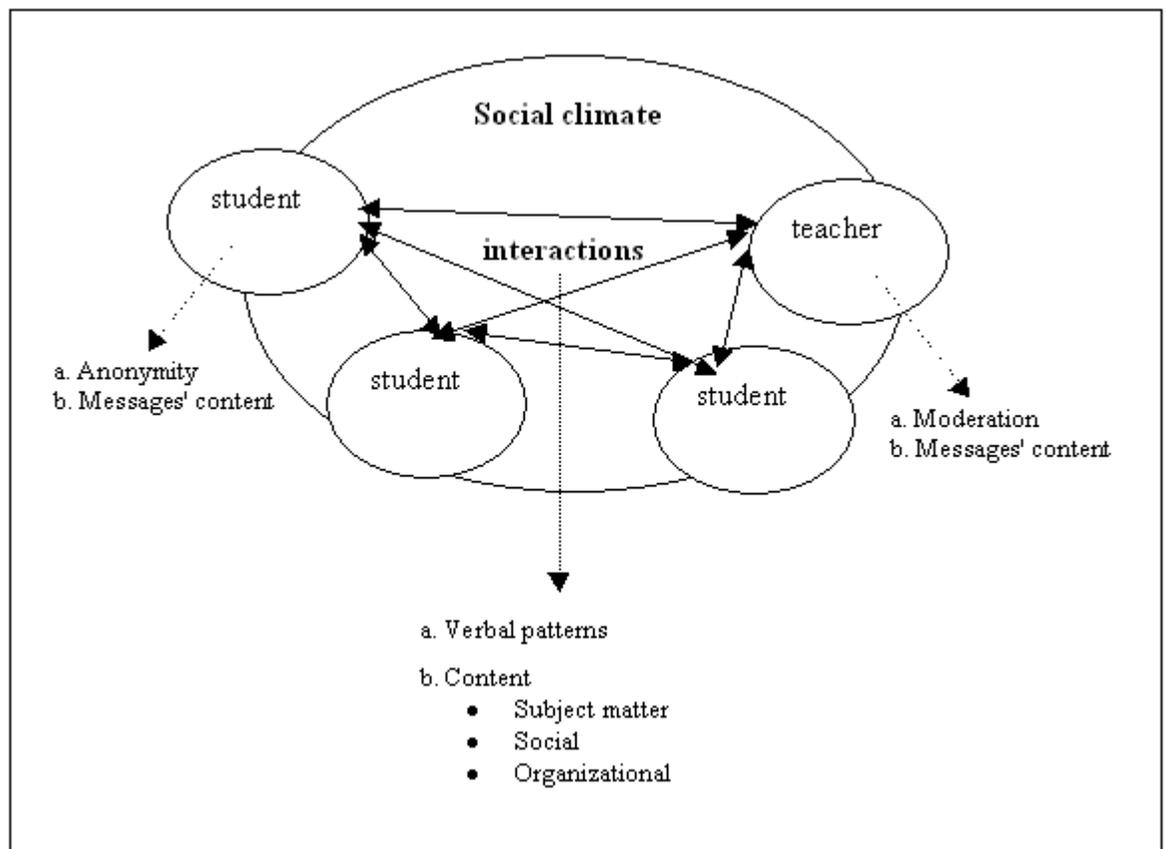


Figure 1: Social Aspects of Learning Discussion Groups in the Reported Studies

STUDY 1: CONTENT AND SOCIAL MESSAGES IN ASYNCHRONOUS DISCUSSION GROUPS

The purpose of this study was to explore the interactions among students in asynchronous learning discussion groups, in particular as to whether these interactions deal with subject matter or social issues (Rozner, 2000).

Method

Eight groups, each including two to four high school students from different schools, were enlisted in a reading encouragement project. Students were asked to read the same book and then participate in a discussion group moderated by a teacher. The total of 83 messages were classed into 156 units of meaning. The classing of the units was done following Henri's (1991) model based on content analysis of online messages, looking for significant units pertaining to one of five categories: participation, social, interaction, cognitive, and meta cognitive units. Subsequently, identified units were divided into content discussion units (CDU) and social discussion units (SDU). CDUs were explored in depth to find whether and how knowledge construction evolved through the project.

Results

The results showed that the teacher, who controlled the discussion, sent 40 percent of the messages. The teacher encouraged students to focus on the learning assignment and to send long messages. The average percentage of SDUs for all four sessions was 33 percent. At the beginning of the learning process the percentages of CDU and SDU were similar, and in two groups there were more SDU than CDU. But as time passed the number of CDU increased and of SDU decreased. The students actually focused on the learning assignments, and gradually most of the units in their messages were CDUs.

As the teacher was not engaged in creating a learning group, but instead focused mainly on the learning assignment, students felt that their activity in the discussion forum should only fulfill the assignments. Consequently, social interaction was limited, students interacted more with the teacher than with each other, and the objective of collaborative knowledge construction was not accomplished. Nevertheless social interaction was not totally absent. Social units could still be found in messages such as: "We enjoyed exchanging messages with you. We noted that you really like sport." "We are happy that you

would like us to keep in touch, we send you our addresses.” “Already two weeks passed and we have not got a response. It is not fun to write and not to get a response.”

STUDY 2: THE INFLUENCE OF STUDENT ANONYMITY AND TEACHER GUIDANCE ON THE SOCIAL AND COGNITIVE NATURE OF AN EDUCATIONAL SYNCHRONIC ENVIRONMENT

In this study the learning process in a synchronous environment (chat) was explored. The research questions dealt with the influence of anonymity and moderation on virtual conferences (Tsur, 2000).

Method

Eleven grade eight students participated in 12 online discussions (chats) in four different situations: moderated or non-moderated by an instructor, and using or not using names or nicknames. The study's data were the whole set of interactions, and students' answers to a summarizing questionnaire.

Content messages were defined as messages focusing on the academic subjects discussed, while social messages were defined as messages comprising polite sentences (e.g., from the “hi-bye” genre) or sentences that otherwise do not relate to the content (e.g., “Does it rain now where you are?”)

Results

The findings indicated that in this academic conferencing situation, more task oriented sentences occur than social sentences. Moderation as such had no effect on the quantity of sentences of either type, content or social. Regarding anonymity, more content related messages were found in interactions with nicknames than in interactions with real names ($F=6.2$; $p<0.05$). In non-moderated discussions, as well, more content messages were delivered when nicknames were used, than when real names were used ($F=5.76$; $p<0.05$).

There was no significant difference relating to social cues. But the following findings are of particular interest. First, the amount of social sentences was similar to the amount of content sentences when students used real names and the discussion was not moderated. In addition, the highest amount of social

sentences was generated when students used nicknames and the discussion was not moderated. When the discussion was moderated the number of negative social sentences decreased.

When asked about their attitude towards moderation, only two students out of 11 were firmly positive. Others said: “Without a moderator it is more fun, as we talk among ourselves.” “The moderator tells us to hurry and it is no good.” “I think that it should be possible to express your opinion freely, and a moderator only hinders.”

When asked about anonymity only one student out of 11 was firmly against. Other opinions were: “It is more convenient to speak with a nickname.” “I could say all I wanted, it is cooler.” “The student has not to fear that tomorrow morning somebody will say this student said so and so.” Anonymity was detected as a factor that encourages the participation of the whole group, in contrast to a face-to-face situation where typically some students do not take part in the discussion.

STUDY 3: THE DEVELOPMENT OF SOCIAL CLIMATE IN ASYNCHRONOUS CONFERENCES

This study examined whether a social climate evolves in online courses of different kinds: a hybrid course (a mixture of online and face-to-face interactions) and a distance learning course (Sheri-Steinberg, 2000). Both courses offered a virtual cafeteria as a social forum, in addition to other forums in which course subjects were discussed. The study focused on the “strength of social climate” emerging in the *social* discussion-forums, and in the *content* discussion-forums, of both types of courses.

Method

Content analysis of 355 messages posted by students participating in two distance-learning courses (one delivered mostly online and the other in a mixed face-to-face and online discussion mode) was performed. Messages were classified as relating either to the course content or to social issues (e.g., as those occurring in the virtual cafeteria forum). Social expressions were classified as personally addressed, as directed to the whole group, or not addressed at all. Finally, the strength of social climate for each student was calculated by dividing the number of social expressions by the total number of messages generated. The whole set of data was analyzed to identify differences in social climate parameters among modes of learning and kinds of discussion forums.

Results

Results indicate that the strength of the social climate in the online cafeteria used by distance learning students was higher ($M=0.82$) than the strength of social climate in the online cafeteria used by face-to-face students ($M=0.39$). In the content discussion forums, the social strength was higher in the face-to-face group ($M=1.41$) than in the distance-learning group ($M=0.8$); the difference was significant ($F=6.37, p<0.05$). Analysis of social climate at different periods in time shows that only in the distance-learning course in the virtual cafeteria forum did the strength of social climate progressed over time ($t=1.33, p<0.05$).

Apparently, face-to-face students had a real cafeteria to develop communication. As time passed and they began to know each other personally, the virtual social place became less important. In contrast, virtual students had to use the virtual cafeteria throughout their course in order to communicate both about their studies and socially. Moreover, it was interesting to find that online students in need of social interaction, embedded their social interactions within the content discussion forums.

STUDY 4: VERBAL INTERACTION PATTERNS IN MUD CLASSES

This study dealt with the educational potential of text-based virtual environments, in this case in a multiple users domain (MUD) (Daher, 2000). The main research assumption was that communication patterns in a MUD classroom are different from communication patterns in the traditional classroom. The study focused on the patterns of both *teacher-student* and *student-student* verbal interactions in a MUD class, compared with those in a traditional class and an audio-video conference.

Method

Logs of English language discussions between four teachers and 32 students were analyzed, using an instrument based on the models by Amidon and Flanders (1967). The instrument defined three basic categories of teacher-student interactions: teacher-initiated and student-initiated interactions, and student-student interactions.

The data collected were compared to findings on verbal interaction in the traditional class as reported by Pankraz (1967) and Flanders (1967), and to parallel findings from an audio-video conference class as reported by Murphy (1995).

Results

In comparison with results reported for traditional and audio-video conference classes, we found that in the MUD classes:

- The proportion of *teacher talk* was lower than in the other two types of classes.
- The proportion of *student talk* was higher.
- Teachers' response (i.e., acceptance or rejection of students' talk) was minimal.
- The ratio of student initiated talk in teacher-student verbal interaction was lower.
- The ratio of student responses and initiated talk in student-to-student verbal interaction was higher.
- The ratio of teacher questions was the same as in the traditional class, and higher than in the audio-video conference class.

Although it seems that teachers in a MUD environment participated in discussions to a lesser extent than in a face-to-face class, they still played a dominant role. The teacher-students interaction pattern prevailed over the student-student interaction pattern. In contrast, students did not initiate talks with an unresponsive teacher preferring to initiate talks with each other.

STUDY 5: INFORMAL VIRTUAL MEETING SPACES

The goal of this study was to closely trace the development of social interactions in informal virtual spaces that were offered as components of the environment of a distance learning course (Oren, 2001).

Method

Participants were a group of teachers (T group) in a distance learning course ($n=14$), and university students (U group) in a combined face-to-face and distance-learning course ($n=19$). An informal virtual meeting place – a “cafeteria” – was established to support social interaction. In the middle of the term another social forum was established “the corridor” – especially for help functions. Messages delivered in these forums were counted and their content was analyzed. Content analysis looked for issues that engaged students in these forums.

Results

During the first six weeks of the courses, a large number of messages were posted in the cafeteria forum (T group, 77 messages; U group, 137 messages). At first most notes focused on social issues (e.g., acquaintance), but gradually the forum became a place where students also exchanged information regarding organizational issues. To support this growing need another forum was created, the *corridor* forum, defined as a place where people meet incidentally and have the possibility to post notes on various topics (e.g., technical issues, difficulties with a bibliographical item, arrangements for a virtual meeting) and to request the instructor's or another students' reply. Following the corridor's creation, 19 messages were posted in it by the T group during its first month, and 39 by the U group already in its first week. In contrast in the same periods, 13 messages were posted in the cafeteria forum by the T group, and 11 by the U group.

It seems evident that the students perceived support for the organizational aspects of the group's functioning as an important need. They created a *de facto* space for this kind of interaction within another existing space (the cafeteria), and took full advantage of the new space when offered to them. The possibility to collectively handle technical and organizational aspects of the group's life appeared to be an important element for sustaining the social existence of the learning group.

Examples of the messages that were posted to the corridor forum are: "I am looking for a mate to prepare the assignment together...You may contact me via email, ICQ or here." "If somebody finds Ellis in the corridor, tell her to" "(Ellis): I walked in the corridor and have seen your message."

It seems that as far as social interaction evolves in a learning group, it did does not appear to matter whether a course is delivered wholly or only partly online. Students needed the acquaintance phase, to have small talk, and to discuss problems – technical or methodological – arising in the course of learning.

DISCUSSION

Each study described in the previous section concerned a particular social aspect of discussion groups in online courses. In this section we will integrate these results to elaborate on the three issues raised in the introduction of this paper, namely the development of social climate, the emerging modes of social interaction, and the role of the teacher regarding social atmosphere in learning discussion groups.

Does social climate develop in online learning discussion groups?

A crucial question regarding online discussion groups is if and how a social climate develops within an online environment, considered by some as a “cold medium,” i.e., alienating and lacking the warmth of intonations, inflections, gestures and body language characterizing face-to-face interactions. The findings of our studies refute this characterization of technology-mediated interactions. The results show that in all discussion groups a social activity layer gradually developed, fulfilling an important role by supporting the learning group’s work, as evidenced in the contents of more than one third of the messages in an asynchronous environment (Study 1), and almost one third of the messages in a synchronous environment (Study 2). The strength of the social climate as reflected in the discussion forums increased with time not only in the forums defined as social spaces (e.g., cafeteria) but in content-related forums as well (study 3).

A key question to be asked here relates to the nature of this social layer. In the context of face-to-face group learning and work processes, social issues have been studied extensively (Sharan, 1994). This is not yet the case for virtual groups. Based on our and other observations we can draw several conclusions regarding significant changes in the group’s functioning within virtual environments in comparison with face-to-face groups, for example:

- Group activities are not limited by place or time boundaries, and group members communicate whenever convenient for them, thus contributing to the creation of a learning atmosphere free from pressure and compulsion, and enabling the emergence of social interactions as well as completion of learning assignments (see Studies 1 and 5). In asynchronous work, members’ participation proceeds through differentiated stages separated in time, e.g., reading, elaboration, production, delivery, and feedback supply or feedback recollection stages. A crucial implication is that a member’s input to the group’s work can be elaborated without the pressing immediacy so typical of face-to-face communication situations.
- Group members can assume various roles and even (in less formally defined situations) various identities according to changing situations (see Study 2). Anonymity supports the appearance of social relations and even affects the accomplishment of the learning assignments as well.
- Human necessity to communicate promotes, when using the technology, a process in which new symbolic conventions and communication codes are gradually developed (see Study 4). Virtual transactions involve a process of translation of physical gestures (an essential component of any face-to-face interaction) into digital gestures (e.g., emoticons), resulting gradually in the consolidation of new conventions and communication codes.

Our findings reinforce the claims in the research literature that the Internet clearly supports the development of new modes of social interaction (digital social climate), even expanding the opportunities for these beyond the constraints of space and time. Early concerns about the alienating nature of technology-based interactions (Kiesler & Sproull, 1992) were not supported, or better put, they were strongly contradicted by the dense and multifaceted social life evolving on the Internet. In relation to educational issues, we observed that these social interactions in virtual learning groups were strongly intertwined with learning interactions, and that particular functional needs evolved at the social level as the groups' work proceeded in time.

What modes of social interaction evolve in online discussion groups?

Among individual students or the whole group, social behavior in virtual groups typically takes the form of an exchange of friendly texts not directly related to the learning activity (Harasim, 1990; Henri, 1991; Hiltz, 1995, Oren et. al, 2000; Hara, Bonk & Angeli, 2000). An analysis of texts generated by discussion groups illustrated the emergence of different modes of social behavior: strictly social, content-related, and functional.

The first mode can be observed in messages that are delivered in forums dedicated to social interaction per se, and are detached from the learning task or the content under discussion. The second mode is evident in content-related messages that also include explicit social components. The context for the interaction is a learning task, but besides formal statements messages also contains expressions aimed to offer guidance, support or personal feedback to its recipient.

Our studies (Studies 1 and 3) and similar ones (e.g., Hara et al., 2000), showed that the number of messages not related to content issues (namely social-only) decreased as the semester progressed. At the same time, the gradual consolidation of the social climate can be recognized in the language and style of content-related messages. As time passed, students began to refer to each other by their first name or nickname (e.g., Moses the Shark). They also began to use emotional language in evaluating each other's work (e.g., "Good for you." "I like it." "I enjoyed it." "I loved it." "I totally agree with your opinion." "Thanks for the idea.") Messages became more friendly and personal. When at the end of the course students were asked about the social climate in the course, they mentioned it was exciting and that personal ties evolved over time. For example, referring to a collaborative assignment in which each student had to look for a partner and complete a project, one participant wrote that "We began by asking – would you like to work with me? And in the end we all knew each other's families."

The third mode of social interactions has mainly functional purposes. It refers to the participants' practical needs, whether or not these are related to specific learning tasks (e.g., information about the classes, location of resources, or even events unrelated to the courses). Our observations in the studies reported in this paper reinforce previous claims regarding the importance of special virtual places for students to maintain functional communication (Harasim et. al, 1995). In these previous studies, the importance of informal or incidental meeting places was stressed both by the instructors and students participating in virtual courses. However, it appears that the nature of the course (virtual or combined face-to-face/virtual) affects the quality and intensity of use of these functional virtual meeting places. In Study 5 we observed that in a virtual-only course, the students made frequent use of the informal meeting space (the cafeteria). Moreover, as the course advanced the demand for an additional functional space focusing on organizational aspects (the corridor) was raised. In contrast, in courses that included online activities as part of the traditional learning, the need for special informal meeting virtual places decreased over time (see study 3). For face-to-face groups, meetings in "real" cafeterias and the continuous personal interaction in the classes diminished the social role of the virtual meeting places.

What is the role of the virtual teacher in regard to the social atmosphere developed in a virtual group?

Our studies revealed that teachers' involvement, or more accurately a decrease in teachers' involvement in the discussion is an important factor in the development of social climate in virtual discussion groups. Despite educators' unanimous statements favoring the constructivist approach to learning, teacher controlled learning is still the most common mode of instruction in schools (Varsidaís, 2000). Likewise, despite the widespread view that the constructivist and collaborative approaches are the most appropriate modes for managing online discussion groups, the lecturing mode often remains the most common strategy used by instructors to moderate virtual discussions. Conventional pedagogy tends to creep into the new learning environments (Nachmias et al., 2000). This situation explains research results indicating that an increase in students' participation and in social activity was correlated with a decrease in teachers' control over the group's work (Sotillo, 2000; also Study 1).

In Study 1 it was obvious that the moderating strategy that urged students to focus on the learning assignments caused a decrease in social interaction. At the beginning of the course the number of social units of meaning was almost equal to the number of content units of meaning; as a consequence of the teachers' mode of instruction, social verbal behavior decreased. The same trend appeared in Study 2: social interaction developed more easily when students felt free, i.e., when they were not moderated and they were using nicknames. Even in the

MUD environment (Study 4), where teacher dominance was lower and student participation was higher than in traditional classes, students still interacted more with the teacher than with their peers because of the perceived pressure to complete the learning task. It is evident that while the development of a social climate is quite a natural need of the students in online discussions, it may either grow or vanish as a function of the moderation and intervention approach of the virtual teacher.

IMPLICATIONS OF THESE STUDIES

This article summarizes a series of studies carried out at Tel Aviv University's School of Education that examined the development of social climate in virtual discussion groups. To sum up, we will relate our observations for the development and implementation of online courses. The practical implications pertain to: awareness, support, pedagogical rationale, teacher training, student training, and research.

First, online teachers and moderators should be *aware* that there is no contradiction between social interaction and learning processes. Most research results (including ours) show that teachers find it difficult to change their dominant role to that of moderators and facilitators of learning. As a result, students neither have enough opportunities to interact with each other, nor are they directed to develop self initiative and make active contributions to the collaborative learning process. Social behavior is a natural human need and is acknowledged as an important factor in the development of learning processes. It is claimed to be particularly important in technology-mediated learning situations (Harasim et. al, 1995).

In their tutoring and moderating of virtual learning groups, teachers should explicitly support creation of a social climate with learning groups. With respect to the teachers' role:

- Teachers should moderate the group's work in a way that enables students to interact. They should act mainly as facilitators of processes and they minimize their interventions so as to allow students to gain knowledge from each other and manage discussions independently. They should therefore refrain from dominating the discussion and from interacting mainly with individual students (the one -to-many teacher-centric template typical of the frontal classroom), encouraging instead dense student-to-student interactions.
- They should also encourage participants to act friendly with each other and create a relaxed and calm atmosphere.
- Online course moderators should be attentive to participants' social needs,

and offer a legitimate platform for messages (or parts in messages) that have social rather than solely content significance.

- It is crucial to enhance the social atmosphere by using supportive feedback, discussing with the group ways to facilitate the creation of social interactions, emphasizing the importance of peer feedback, and by encouraging students to relate to each other during the learning activities and beyond.

Implications of our observations at the level of the *pedagogical rationale* of online courses are related to aspects such as the character of the assignments included in the course, the focus of the discussion forums, or the identities assumed by the students. Examples of these implications are:

- Group work should be encouraged as a powerful configuration for the accomplishment of learning tasks (Scardamalia & Bereiter, 1994). Course developers should aim to define learning assignments that demand varied forms of interaction and collaboration for their completion.
- Teachers should implement learning strategies that support communication such as appointing students to moderate discussion groups (Harasim et. al, 1995); or encouraging students to help each other and to refer to each other instead of looking at the instructor as the only partner for dialogue and the only resource for help.
- Course developers should pay particular attention to the creation of a varied range of virtual spaces in order to respond to different social needs evolving during the group's work.
- A distance learning course should include a social forum as a place for social integration of the learning group. Moreover it should enable participants to contact each other for multiple purposes rather than solely for learning purposes.
- It should also include a special place – or forum – in which students can seek for meaningful and contextual (e.g., technical, content-related) help.
- In order to achieve the degree of intimacy required for significant exchanges within online interactions, it is recommended that the number of participants be limited to 20.

As in many other educational attempts to assimilate innovations, appropriate teacher training is a key factor in the design of successful models of socially sound technology based learning. It is obvious that most current teachers' pre-service preparation, and subsequent in-service courses were devised in reference to traditional educational technology and settings (e.g., printed materials, frontal lectures, and face-to-face group work). Thus, they are not familiar with the

processes, interaction patterns, features and possibilities of technology-mediated educational transactions. Teacher training programs for online learning should include moderation skills that foster integration of social interactions (e.g., positive emotions, humor, exchange of personal notes) within the task-related discussion process.

Students' learning experiences are obviously shaped by the features of the traditional classroom milieu. However, it is reasonable to expect that those students who have spent time communicating and plying via the Internet have already developed intuitions and skills regarding social functioning in virtual spaces. But this is surely not the case for all students or for social interactions embedded in formal learning tasks. At this level, student training is required. Students' digital social behavior may be improved by teaching them new communication skills that are relevant to the participation in virtual discussion groups, such as how to bridge between colloquial spoken and written language, how to express feelings by symbolic means, how to participate in asynchronous discussions (e.g., to reflect on other peoples and their own previous messages, maintenance of parallel lines of discussion), and how to moderate peer-group discussions.

Finally, more research is needed. The study of social climate developing in virtual learning groups is still incomplete. At this stage we are mainly engaged in the identification of emerging modes of social activity facilitated by the use of ICT, and in the definition of relevant research questions. The studies reported in this paper represent an attempt to elucidate some of these new and interesting questions, and contribute to the development of virtual learning activities that support social climate in online courses.

References

- Amidon, E. J., Flanders, N.A. (1967). Interaction analysis as a feedback system. In E. Amidon, and J. Hough (Eds.), *Interaction Analysis: Theory, Research and Application*, Reading, MA: Addison Wesley.
- Anderson, T., & Kanuka, H. (1997). Online forums: new platforms for professional development and group collaboration. [Online] Available at: <http://www.jcmc.huji.ac.il/vol3/issue3/>
- Baudin, B. (1999). Keeping online asynchronous discussions on topic. *JALN*, 3(2). [Online] Available at: www.aln.org/alnweb/journal/vol3_issue2/beaudin.htm.
- Bonk, C., Kirkley, J., Hara, N., & Dennen, V. (2000). Advances in Pedagogy: Finding the Instructor in post-secondary online learning. *Paper presented at the annual meeting of the American Educational Research Association*, New Orleans, LA. [Online] Available at: http://www.indiana.edu/~bobweb/temp/online_ped.pdf.
- Burbules, N. (forthcoming). Like a version: Playing with online identities. *Educational Philosophy and Theory*. [Online] Available at: <http://faculty.ed.uiuc.edu/burbules/ncb/papers/dre>
- Chan, T., & Rapman, J. (1999). Flow in web based instructional activity: An exploratory research project. *International Jr. of Educational Communications*, 5(3), p. 225-237.
- Daher, W. (2000). Verbal interaction patterns in the Mud class. *Unpublished M.A. Thesis, School of Education, Tel Aviv University (Hebrew)*.
- Flanders, N.A. (1967). Teacher influence in the classroom. In E. Amidon, and J. Hough (Eds.), *Interaction Analysis: Theory, Research and Application*, Reading, MA: Addison Wesley.
- Hara, N., Bonk, C., & Angeli, C. (2000). Content analysis of online discussion in an applied educational psychology course. *Instructional Science*, 28, p.115-152.
- Harasim, L. (1990). *Online education*. NY: Praeger Publishing.
- Harasim, L., Hiltz, S., Teles, L., & Turoff, M. (1995). *Learning networks: a field guide to teaching & learning online*. Cambridge, MA: MIT Press.
- Henri, F. (1991). Computer conferencing and content analysis. In A. Kaye (Ed.), *Collaborative Learning through Computer Conferencing*. Heidelberg, FRG: Springer-Verlag.
- Hiltz, S. (1995). *The virtual classroom: learning without limits via computer networks*. Norwood, NJ: Ablex Publishing.
- Jiang, M., & Ting, E. (2000). A study of factors influencing students perceived learning in a Web-based course environment. *International Jr. of Educa-*

tional Telecommunication, 6(4), p. 317-338.

Kiesler, S., & Sproull, L. (1992). Group decision making and communication technology. *Organizational Behavior and Human Decision Processes*, 52(1), p. 96- 123.

Korhonen V. (2001). Situated and socially shared cognition in practice: designing a collaborative network learning experience for adult learners. In C. Montgomerie, & J. Vitely (Eds.), *Proceedings of Ed-Media 2001*, AACE.

Murphy, T. (1995). A Quantitative analysis of instructor-student verbal interactions in a simultaneous two way audio-video distance education setting. Unpublished Doctoral Dissertation, Texas A&M University, College Station. [Online] Available at: [Http://aged.tamu.edu/faculty/murphy/disserta/disintro.htm](http://aged.tamu.edu/faculty/murphy/disserta/disintro.htm).

Nachmias, R., Mioduser, D., Oren, A., & Ram, J. (2000). Web-supported emergent collaboration in Higher Education courses. *Educational Technology & Society*, 3(3), p. 94-104.

Pankraz, A. (1967. Verbal interaction patterns in the classrooms of selected physics teachers. In E. Amidon, and J. Hough (Eds.), *Interaction Analysis: Theory, Research and Application*, Reading, MA: Addison Wesley.

Oren, A., Nachmias, R., Mioduser, D., & Lahav, O. (2000). Lernet — a model for virtual learning communities in the World Wide Web. *International Journal of Educational Telecommunication*, 6(2), p. 141-158.

Oren, A. (2001). Teachers learn to communicate. *Iunim Betchnologia Ube-madaim*, 34, p. 12-16. (In Hebrew).

Parks, R. M., Flويد, K. (1996). Making friends in cyberspace. *Journal of Computer Mediated Communication*, 1 (4). [Online] Available at: [Http://www.ascusc.org/jcmc/vol1/issue4/parks.html](http://www.ascusc.org/jcmc/vol1/issue4/parks.html)

Rozner, E. (2000). Collaborative activity as promoting a learning process – a case study of online computer conferencing. *Unpublished M.A. Thesis*, School of Education, Tel Aviv University (Hebrew).

Scardamalia, M., & Bereiter, J. (1994). Computer support for knowledge-building communities. *The Journal of the Learning Science*, 3 (3), p. 265-283.

Schnarch, D. (1997). Sex, intimacy, and the Internet. *Journal of Sex Education and Therapy*, 22(1), p. 15- 20.

Sharan S. (1994). *Handbook of cooperative learning methods*. Westport, CT: Greenwood.

Sherry, L. (2000). The nature and purpose of online discourse: a brief synthesis of current research as related to the Web project. *International Jr. of*

Educational Telecommunication, 6 (1), p. 19-51.

- Sherry-Steinberg, O. (2000). *The development of social climate in discussion forums integrated in different models of distance learning courses*. Unpublished M.A. Thesis, School of Education, Tel Aviv University (Hebrew).
- Sotillo, M. S. (2000). Discourse functions and syntactic complexity in synchronous and asynchronous communication. *Language learning & Technology*, 4(1), p. 82-119.
- Sproull, L., & Kiesler, S. (1991). *Connections: new ways of working in the networked organization*. Cambridge, MA: MIT Press.
- Tsur, O. (2000). *The influence of student anonymity and teacher guidance on the social and cognitive nature of educational net conferencing*. Unpublished M.A. Thesis, School of Education, Tel Aviv University (Hebrew).
- Turkle, S. (1995). *Life on screen: Identity in the age of Internet*. NY: Simon and Shuster.
- Varsidais, B., (2000). Constructivism versus objectivism: implications for interaction, course design, and evaluation in distance education. *International Jr. of Educational Telecommunication*, 4 (1), p. 339-362.
- Walther, J. (1996). Computer mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23(1). p. 3- 43.
- Walther, J., Anderson, J., & Park, D. (1994). Interpersonal effects in computer-mediated interaction: a meta-analysis of social and antisocial communication. *Communication Research*, 4, p. 460-487.
- Wegerif, R. (1998). The social dimension of Asynchronous Learning Networks. [Online] Available at: http://www.aln.org/alnweb/journal/vol2_issue1/wegerif.htm.

Citation Format

Oren, Avigail , Mioduser, David & Nachmias, Rafi (April, 2002) The Development of Social Climate in Virtual Learning Discussion Groups. *International Review of Research in Open and Distance Learning*: 3, 1. <http://www.icaap.org/iuicode?149.3.1.x>

Building Sense of Community at a Distance

Alfred Rovai

School of Education, Regent University, Virginia

Abstract

This article challenges the belief that strong sense of community is limited to the traditional classroom and proposes that the virtual classroom has the potential of building and sustaining sense of community at levels that are comparable to the traditional classroom. Drawing on research literature, the concept of learning community is applied to the virtual classroom by taking on the issue of how best to design and conduct an online course that fosters community among learners who are physically separated from each other. Course design principles are described that facilitate dialogue and decrease psychological distance, thereby increasing a sense of community among learners.

Key Terms

Distance education, community, spirit, trust, interaction, learning, persistence, attrition, ALN, online

Background

There is growing acceptance for the view that educating students beyond the campus is a major element of a university's mission (Harris, 1999). This view is sustained by the enhanced capacity for efficient and widespread use of distance education through advanced electronic delivery systems. Many schools are moving rapidly toward the use of technology to deliver courses and programs at a distance. Several distance education models are presently in use, such as broadcast television, video and audio teleconferencing, and asynchronous learning networks (ALNs). Learners use computers and communications technologies in ALNs to work with remote learning resources, including online content, as well as instructors, and other learners, but without the requirement to be online at the same time. Arguably, the most common ALN communication tool is the World Wide Web used in conjunction with e-learning software such as Blackboard or WebCT, providing students and instructors electronic access to course materials, grades, activities, and communication options such as discussion boards, email, and chat rooms.

One area of concern is that dropout rates tend to be higher in distance education programs than in traditional face-to-face programs. Carr (2000) noted

that dropout rates are often 10 to 20 percentage points higher in distance education courses than in traditional courses. She also reported significant variation among institutions, with some post-secondary schools reporting course-completion rates of more than 80 percent, while others report fewer than 50 percent of distance education students finish their courses. There are a number of well-documented reasons for some dropouts, including the fact that adults sometimes only register for a course in order to obtain knowledge, not credit, and may therefore drop the course once they obtain the knowledge they desire.

The physical separation of students in programs offered at a distance may also contribute to higher dropout rates. Such separation has a tendency to reduce the sense of community, giving rise to feelings of disconnection (Kerka, 1996), isolation, distraction, and lack of personal attention (Besser & Donahue, 1996; Twigg, 1997), which could affect student persistence in distance education courses or programs. Tinto (1993) emphasized the importance of community in reducing dropouts when he theorized that students will increase their levels of satisfaction and the likelihood of persisting in a college program if they feel involved and develop relationships with other members of the learning community. The importance of community is supported by empirical research. Wehlage, Rutter and Smith (1989) found that traditional schools with exemplary dropout-prevention programs devoted considerable attention to overcoming the barriers that prevented students from connecting with the school and to developing a sense of belonging, membership, and engagement. The key finding of their report is that effective schools provide students with a supportive community. In a study of adult learners in a worksite GED program, Vann and Hinton (1994) found that 84 percent of completers belonged to class cliques, whereas 70 percent of dropouts were socially isolated. As a final example, Ashar and Skenes (1993) found in a higher education business program that by creating a social environment that motivated adult learners to persist, social integration had a significant positive effect on retention. They found that learning needs alone appeared strong enough to attract adults to the program, but not to retain them.

Interest in community is not limited to the field of education. The past few decades have witnessed increased interest in the concept of community in general. Much of this interest is based on the perception that sense of community in the United States is weak and there is a need to get American citizens to think about working together toward the common good (Etzioni, 1993). John Goodlad of the University of Washington, head of the Institute for Educational Renewal (1997), echoed these sentiments when he quoted an editorial from the 1990 issue of the *Holistic Education Review*:

Our culture does not nourish that which is best or noblest in the human spirit. It does not cultivate vision, imagination, or aesthetic or spiritual sensitivity. It does not encourage gentleness, generosity, caring, or compassion. Increasingly in the late twentieth century,

the economic-technocratic-static worldview has become a monstrous destroyer of what is loving and life-affirming in the human soul. (p. 125)

Research provides evidence that strong feelings of community may not only increase persistence in courses, but may also increase the flow of information among all learners, availability of support, commitment to group goals, cooperation among members, and satisfaction with group efforts (Bruffee, 1993; Dede, 1996; Wellman, 1999). Additionally, learners benefit from community membership by experiencing a greater sense of well being and by having an agreeable set of individuals to call on for support when needed (Walker, Wasserman & Wellman, 1994; Wellman & Gulia, 1999). Royal and Rossi (1996) suggest that learners' sense of community is related to their engagement in school activities, with students who have a higher sense of community being less likely to experience class cutting behavior or thoughts of dropping out of school and more likely to report feeling bad when unprepared for classes. Additionally, they report that students reporting a high sense of community less often feel burned out at school.

Premise

Educators who perceive the value of social bonds in the learning process must re-conceptualize how a sense of community can be stimulated in virtual classrooms, particularly in Internet-based ALN courses. Learners in these courses are not only physically separated but interact with each other through the use of text-based discussion boards and email, without seeing or hearing each other and without the requirement to be online at the same time. As we will see in the following sections, given the particularly affective nature of forming and maintaining a sense of community, extra demands are placed on both facilitators and learners. This notwithstanding, this article will explain how through creatively addressing the various factors that are known to enhance the formation of a community, a sense of community can be created in an ALN environment.

Sense of Community

Bellah, Madsen, Sullivan, Swidler and Tipton (1985), in their book *Habits of the Heart*, define community as follows:

A community is a group of people who are socially interdependent, who participate together in discussion and decision making, and who

share certain practices that both define the community and are nurtured by it. Such a community is not quickly formed. It almost always has a history and so is also a community of memory, defined in part by its past and its memory of the past. (p. 333)

Additionally, McMillan and Chavis (1986) define community as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (p. 9). Others define sense of community as a result of interaction and deliberation by people brought together by similar interests and common goals (Westheimer & Kahne, 1993), or as an environment in which people interact in a cohesive manner, continually reflecting upon the work of the group while always respecting the differences individual members bring to the group (Graves, 1992). These definitions suggest the most essential elements of community: mutual interdependence among members, sense of belonging, connectedness, spirit, trust, interactivity, common expectations, shared values and goals, and overlapping histories among members.

When community is viewed as what people do together, rather than where or through what means they do them, community becomes separated from geography, physical neighborhoods, and campuses (Wellman, 1999). To fully understand sense of community, Rheingold (1991) and Hill (1996) call for extensive research in a variety of contexts. They believe that the dimensions of community differ from setting to setting suggesting that sense of community is setting specific. One such setting is the classroom, physical or virtual. Drawing on the definitions of community provided above, one can expect that members of classroom communities will have feelings of belonging and trust. They will believe that they matter to one another and to the group; that they have duties and obligations to each other and to the school; and that they possess a shared faith that members’ educational needs will be met through their commitment to shared goals. Accordingly, classroom community can be constitutively defined in terms of four dimensions: spirit, trust, interaction, and commonality of expectation and goals, in this case, learning.

Spirit

The first dimension, spirit, denotes recognition of membership in a community and the feelings of friendship, cohesion, and bonding that develop among learners as they enjoy one another and look forward to time spent together. Community spirit allows learners to challenge and to nurture each other. Learners need to feel a sense of connectedness, to feel a part of and be included in the group (Gibbs, 1995). In contrast, a lack of connectedness may affect the learner’s ability to cope. Non-involvement in the classroom community, according to Gibbs, can possibly lead to feelings of loneliness, low self-esteem, isolation, and low

motivation to learn, which in turn can lead to low achievement and dropouts.

Trust

Trust, the second dimension, is the feeling that community members can be trusted and represents a willingness to rely on other members of the community in whom one has confidence (Moorman, Zaltman & Deshpande, 1993). Trust consists of two components: credibility and benevolence (Doney & Cannon, 1997). The first component, credibility, is an expectation that the word of other learners in the community can be relied on. The second component, benevolence, is the extent to which learners are genuinely interested in the welfare of other members of the community and are motivated to assist others in their learning. With trust comes the likelihood of candor — that members will feel safe and subsequently expose gaps in their learning and feel that other members of the community will respond in supportive ways. Without trust, the classroom is filled mostly by the instructor's presence. It becomes formal and stiff and does not engender the open and caring environment needed to promote diverse and constructive interactions that empower learners to negotiate common understandings in their quest for learning new perspectives and ideas. As Preece (2000) points out: “When there is trust among people, relationships flourish; without it, they wither” (p. 191).

Interaction

Interaction is the third dimension of classroom community. Learner interaction is an essential element of, but not the full solution to, the development of a sense of community. As May (1993) points out, “increased learner interaction is not an inherently or self-evidently positive educational goal” (p. 47). If we cannot fully promote sense of community through the quantity of interaction, we must foster community through the quality of the interaction. A useful distinction in examining the relationship of community and interaction is the categorization of interaction by Hare and Davis (1994) as either task-driven or socio-emotional in origin. Task-driven interaction is directed toward the completion of assigned tasks while socio-emotionally-driven interaction is directed toward relationships among learners. Task-driven interaction is under the direct control of the instructor and often takes the form of responses to instructor-generated discussion topics and peer assessments. Factors such as student knowledge and personality, communication patterns, reluctance to criticize, fear of criticism and retaliation, and unwillingness to give honest feedback may negatively affect sense of community by reducing feelings of safety and trust among learners. Therefore, in facilitating their groups, instructors need to mitigate against these factors.

In contrast, socio-emotional-driven interaction is largely self-generated. Social-

izing can take on many characteristics, from exchanging empathetic messages (McMahon, 1997) to self-disclosure (Cutler, 1996). According to Cutler: “the more one discloses personal information, the more others will reciprocate, and the more individuals know about each other, the more likely they are to establish trust, seek support, and thus find satisfaction” (p. 326). Thus increased disclosure of personal information can strengthen classroom community. As Tinto (1975) observes: “Social interaction via friendship support is directly related to persistence in college” (p. 107).

Common Expectations: Learning

Interaction among learners also supports the learning process. Learning, the final dimension of classroom community, reflects the commitment to a common educational purpose and epitomizes learner attitudes concerning the quality of learning. Situated learning (Brown, Collins, & Duguid, 1989) maintains that learning and cognition must take account of social interaction and work. A unifying concept emerging from situated learning research is “communities of practice,” the concept that learning takes place through the sharing of purposeful, patterned activity (Lave & Wenger, 1991). This concept stresses practice and community equally. Learning is considered “an integral and inseparable aspect of social practice” within the classroom community (Lave & Wenger, 1991, p. 31). Rather than merely adding to the student’s knowledge, learning involves a “process of transformation of participation itself,” which occurs as a function of all active members of the classroom community “transforming roles and understanding in the activities in which they participate” (Rogoff, 1994, p. 209). This type of learning leads to deeper understanding of content and processes for the community members (diSessa & Minstrell, 1998). In sum, learning represents the common purpose of the community as members of the community grow to value learning and feel that their educational needs are being satisfied through active participation in the community.

Learning at a Distance

Russell (1999), after cataloging over 400 students, concluded that the medium is rarely the determining factor in learning effectiveness. Campus students tend to perform just as well as their off-campus counterparts in the same courses. It is course design and pedagogy that matter the most. Consequently, if sense of community is related to learning as some research suggests, one could hypothesize that the medium is rarely the determining factor in the building and nurturing of community.

Rovai (in press) found support for this hypothesis in a study that examined community in fourteen university courses: seven traditional face-to-face courses

and seven ALN courses presented using the Blackboard e-learning system. This study found that feelings of classroom community were moderately related to interactivity, thus emphasizing the importance of dialogue over structure. The four Blackboard courses with the lowest amount of interactivity placed more emphasis on structure than on dialogue and the weakest sense of classroom community of all fourteen courses, significantly lower than the lowest traditional courses, suggesting that online instructors must place emphasis on building and nurturing sense of community. Kozma (1991) would probably characterize these four low-community courses as mostly delivering instruction versus designing instruction so that learners actively collaborate with the medium to construct knowledge. However, levels of learner-learner and learner-instructor interactivity represent only one aspect of nurturing community since the coefficient of determination in this study revealed that only 30 percent of the variance of classroom community can be explained by changes in the number of messages posted in course discussion boards. Clearly, other factors, such as the quality of interaction, also influence development of sense of community.

In this particularly challenging learning environment, then, a key question becomes: How do learners and facilitators in a virtual classroom build and sustain a sense of community? A review of the professional literature suggests that many factors influence the quality of interaction and thus the sense of community within any distant learning environment. These inter-related factors, in turn, influence course design and pedagogy. The remainder of this paper describes and examines the following seven factors that the professional literature suggests are positive correlates to sense of community: (a) transactional distance, (b) social presence, (c) social equality, (d) small group activities, (e) group facilitation, (f) teaching style and learning stage, and (g) community size.

Transactional Distance

One factor is transactional distance. Moore (1993) defines transactional distance as the psychological and communications space between learners and instructors. Transactional distance is relative and different for each person. According to Moore, the extent of transactional distance is a function of structure and dialogue. Structure is the amount of control exercised by the instructor in a learning environment and additional structure tends to increase psychological distance and decrease sense of community. Dialogue, on the other hand, is the amount of control exercised by the learner and more dialogue tends to decrease psychological distance and increase sense of community. By manipulating the communications media and designing an online course to take full advantage of these capabilities, dialogue can be increased and transactional distance reduced. To encourage all learners to access and participate in online discussions on a regular basis, learners should understand that course participation is not only a course requirement, but is also a graded component of the course. Accordingly,

all members of the learning community should be graded on quantity, quality, and timeliness of their contributions.

Social Presence

A second factor is social presence. Some instructors feel that once they design their course and place it online their job is mostly done, that the community of learners will take care of itself and thrive, and learning will occur. What is likely to happen in such situations is that sense of community will wither unless the community is nurtured and support is provided in the form of heightened awareness of social presence. “Social presence in cyberspace takes on more of a complexion of reciprocal awareness by others of an individual and the individual’s awareness of others. . . to create a mutual sense of interaction that is essential to the feeling that others are there” (Cutler, 1995, p. 18). Computer-mediated communications are regarded as less personal and possessing diminished social presence and social context cues when compared to face-to-face communication. As cues are fewer, social presence is lower, and as social presence goes down so does sense of community. Consequently ALN instructors must plan on enhancing social presence.

Social Equality

A third factor that influences the growth of community is social equality. Benkeny, Clinchy, Goldberger, and Tarule (1986) identify two different communication patterns that can be detected in textual communications and are threats to social equality: (a) the separate voice, that is the separate, autonomous, or independent path which is typical of the majority of men (and some women); and (b) the connected voice, the relational, connected, or interdependent path, which reflects the majority of women (and some men). This communications model suggests that many female students place emphasis on relationships and prefer to learn in an environment where cooperation is more valued than competition. The connected voice supports classroom community building while the separate voice does not. A threat to community occurs when one or more students use an authoritative tone in online discussions, followed by those students who have a more inclusive style of discourse, who feel put off and thus reduce discussion participation. Online instructors must ensure equal opportunities for participation by all students. One technique to reduce anonymity and to help learners make connections with each other is for online instructors to have all members of the course introduce themselves during the first week of the course in a discussion area set aside for this purpose. Such an activity can help maintain etiquette and civility in discussions and promote a sense of community. However, introductions during the first week will not likely do much

to change the behavior of someone with an authoritative communication style. Such a style can dominate the tone and destroy the camaraderie of a discussion group. Other techniques may include interjection of alternative views in a discussion thread, soliciting views from other students, or even an “offline” chat with aggressive students.

Small Group Activities

The fourth factor is small group activities. Although too much structure can weaken community, some structure is needed. Breaking large numbers of students into small groups (typically under ten learners each), providing specific tasks, and setting timelines support the concepts of situated learning and communities of practice (Brown, Collins, & Duguid, 1989). The fundamental idea underlying small group work is that students become meaningfully engaged in a variety of learning activities such as student or teacher led discussion groups, debates, projects, and collaborative learning groups. Augmenting individual learning activities with small group activities promotes a sense of community by helping students make connections with each other.

Group Facilitation

A fifth factor is group facilitation. As noted earlier, dialogue is an essential component of an online course and facilitation efforts are meant to inspire learners to interact. Online instructors must be mindful of two kinds of functions: (a) functions related to the group task, and (b) functions related to building and maintaining the group. The online instructor has a duty to see that these functions are performed adequately, particularly in light of the potential for miscommunication in the ALN environment resulting from the diminished abilities of the medium to convey nonverbal communications. In facilitating task-oriented interactions, instructors should manifest a measure of humility, allowing attention to the voice of students as knowledge is constructed. Deutsch (1966) points out that humility is “an attitude towards facts and messages outside one-self openness to experience as well as to criticism a sensitivity and responsiveness to the needs and desires of others” (p. 230). Benne and Sheats (1978) describe group building and maintenance roles as those roles that are oriented toward the functioning of the group as a group. They are designed to alter or to maintain the group’s way of working, to strengthen, regulate and perpetuate the group as a group. Some of these group maintenance roles might be: encourager, harmonizer, compromiser, gatekeeper, standard setter, observer, or follower. Skill in performing these roles is useful to the instructor in facilitating group discussion and in promoting a sense of community.

Teaching Style and Learning Stage

A sixth factor consists of teaching style and learning stage. A sense of community is supported in learning environments where there is an alignment of teaching style and learning stage. Grow (1991) describes self-directed learning as the degree of choice that learners have within an instructional situation. He theorized a staged self-directed learning model in which learners evolve from being dependent learners through intermediate stages of becoming interested and then involved learners on their way to becoming fully functional self-directed learners. Each stage of learning requires an instructor who manifests the appropriate teaching style. For example, the dependent learner is usually most comfortable in a learning environment that emphasizes structure over dialogue, while the opposite is true for the self-directed learner who seeks more dialogue and less structure. Mismatches will occur and both sense of community and learning will suffer if there is a weak alignment of teaching style to learning stage. For example, when confronted with an authoritarian instructor who emphasizes structure, self-directed learners are likely to resent and to rebel against a series of low-level demands. However, even under directive teachers, some self-directed learners develop the ability to function well and retain overall control of their learning (Long, 1989). Grow (1991) suggests what is “good teaching” for one student may not be “good teaching” for another student. Good teaching does two things: (a) it matches the student’s stage of self-direction, and (b) it empowers the student to progress toward greater self-direction. Good teaching is situational and requires that the online instructor design and facilitate an online course that accommodates the needs of all learners, regardless of their stage of learning. However, as Lepper and Chabay (1985) point out regarding learner-control “It is unlikely that any choice of level of control will be optimal for all students, or even that the same level of control will be optimal for a single student for all activities or in all situations” (p. 226).

Community Size

A seventh and final factor is community size. Appropriate class size seems to be a perennial debate that divides educators when discussing traditional face-to-face education. Common sense tells us that smaller classes facilitate increased learner-instructor interaction and learner-learner familiarity, so one would expect smaller classes to promote a sense of community. The research conducted by Glass and Smith (1979) in traditional class size continues to influence discussions to this day. Their meta-analysis consisted of 80 studies that compared smaller and larger classes with respect to student achievement, classroom processes, and teacher and student attitudes. They concluded that smaller classes were significantly better than larger classes on all these variables.

However, distance education can increase the student-instructor ratio (i.e., class size) by allowing one instructor to teach hundreds of students, such as occurs in large university lecture halls. Large class sizes, with greater student-instructor ratios, can rapidly amortize high development and initial technology costs. The result is fewer and fewer teachers teaching to more and more students as course design moves toward the independent study model. What may be overlooked is that some specialized subjects, such as research and statistics, require equally specialized learner attention.

Rice (1994) found that community size in computer-mediated environments strongly influences learning activities. Too few members generate little interactions and too many members generate a sense of being overwhelmed. Exact numbers to guide community size are difficult to determine since the chemistry of the community is situational and varies with content area, instructor, and learners. Nonetheless, eight to ten students appear to be a reasonable estimate for the minimum critical mass needed to promote good interactions. At the opposite end of this continuum, 20-30 students seem to be the most learners that a single online instructor can reasonably handle in a single class if it contains active discussions. However, large ALN courses, that is, courses with over 30 learners, can be managed by using a team teaching approach in order to maintain a reasonable student-instructor ratio and by using multiple active discussion groups so that each learner can make connections with a reasonable number of community members. Alternatively, large courses that focus on delivering content can be created, followed by small discussion groups led by subject matter experts providing one-on-few coaching and mentoring. Still other strategies are possible to manage larger classes efficiently, such as using teaching assistants monitored by the online instructor, to facilitate discussion. When instructors assign small group work in the face-to-face environment, the groups are often sent away to conduct this activity on their own while the instructor focuses on other aspects of the course. This strategy can also be used in an online environment.

Conclusion

The literature provides evidence that persistence in distance education programs is lower than that of traditional face-to-face programs. There are many contributing reasons why students drop out of distant programs, such as large financial commitments, care of children and other social obligations, changing work situations, limited academic support, dissatisfaction with teaching methods, low learner self-confidence and self-perception, and student feelings of isolation (Cookson, 1990; Tinto, 1993; Besser & Donahue, 1996; Twigg, 1997). Some factors are beyond the control of the school to influence, while other factors can be mitigated by the school.

In order to improve persistence in distance education programs, schools need to assist students in making the adjustment to learning at a distance by enhancing student satisfaction and commitment. Those students who possess strong feelings of community are more likely to persist than those students who feel alienated and alone (Tinto, 1993). Therefore, one strategy to help increase retention is to provide students with increased affective support by promoting a strong sense of community. Such a strategy has the potential to reverse feelings of isolation and, by making connections with other learners, to provide students with a larger base of academic support.

As sense of learner community may be viewed as consisting of four related dimensions: spirit, trust, interaction, and commonality of learning expectations and goals. A strategy that enhances these four dimensions should result in stronger feelings of community. A review of literature suggests instructors teaching at a distance may promote sense of community by attending to seven factors: (a) transactional distance, (b) social presence, (c) social equality, (d) small group activities, (e) group facilitation, (f) teaching style and learning stage, and (g) community size. If we can design and deliver courses at a distance that build and sustain community by drawing on these factors, perhaps our actions will help promote satisfaction and retention in e-learning programs.

References

- Ashar, H., & Skenes, R. (1993). Can Tinto's student departure model be applied to nontraditional students? *Adult Education Quarterly* 43(2), p. 90-100.
- Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1986). *Women's ways of knowing*. New York: Basic Books.
- Bellah, R. N., Madsen, R., Sullivan, W.M., Swidler, A. & Tipton, S.M. (1985). *Habits of the heart: Individualism and commitment in American life*. New York: Harper & Row.
- Benne, K. & Sheats, P. (1978). Functional roles of group members. In L. Bradford (Ed.), *Group development*. 2nd ed., p. 52-61. La Jolla, CA: University Associates.
- Besser, H. & Donahue, S. (1996). Introduction and overview: Perspectives on . . . distance independent education, *Journal of the American Society for Information Science*, 47(11), p. 801-804.
- Brown. J.S., Collins, A.. & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18, p. 32-42.
- Bruffee, K. A. (1993). Collaborative learning: Higher education, interdependence, and the authority of knowledge. Baltimore: John Hopkins University Press.
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *The Chronicle of Higher Education*, 46(23), A39-A41.
- Cookson, P. 1990. "Persistence in Distance Education." In M. G. Moore and others, eds., *Contemporary Issues in American Distance Education*. Oxford: Pergamon Press, p. 192 - 204.
- Cutler, R.H. (1995). Distributed presence and community in cyberspace, *Interpersonal Communication and Technology: A Journal for the 21st Century*, 1(2). [Online] Retrieved April 6, 2002: <http://jan.ucc.nau.edu/~ipct-j/1995/n2/cutler.txt>.
- Dede, C. (1996). The evolution of distance education: Emerging technologies and distributed learning. *American Journal of Distance Education*, 10(2), p. 4-36.
- Deutsch, K.W. (1966). *The nerves of government*. New York: The Free Press.
- diSessa, A. & Minstrell, J. (1998). Cultivating conceptual change with benchmark lessons. In J. Greeno & S. Goldman (Eds.) *Thinking practices in mathematics and science learning*, New Jersey: Lawrence Erlbaum, p. 155-

188.

- Doney, P. M. & Cannon, J.P. (1997). An examination of the nature of trust in buyer-seller relationships, *Journal of Marketing*, 61(April), p. 35-51.
- Etzioni, A. (1993). *The spirit of community: Rights, responsibility, and the communitarian agenda*. New York: Crown.
- Frymier, A. B. (1993). *The impact of teacher immediacy on students' motivation over the course of a semester*. Paper presented at the Annual Meeting of the Speech Communication Association, Miami Beach, FL. (ERIC Document Reproduction Service No. ED 367 020).
- Gibbs, J. (1995). *Tribes*. Sausalito, CA: Center Source Systems.
- Glass, G.V. & Smith, M.V. (1979). Meta-analysis of research on class size and achievement. *Educational Evaluation and Policy Analysis*, 1, p. 2-16.
- Goodlad, J.L. (1997). *In praise of education*. New York: Teachers College Press.
- Graves, L.N. (1992). Cooperative learning communities: Context for a new vision of education and society. *Journal of Education*, 174(2), p. 57-79.
- Grow, G.O. (1991). Teaching learners to be self-directed. *Adult Education Quarterly*, 41(3), p. 125-149.
- Hare, A. P., & Davies, M. F. (1994). Social interaction. In A. P. Hare, H. H. Blumberg, M. F. Davies, & M. V. Kent (Eds.) *Small group research: A handbook*, p. 169-193. Norwood, NJ: Ablex.
- Harris, D. A. (1999). Online distance education in the United States, *IEEE Communications Magazine*, 37(3), p. 87-91.
- Hill, J.L. (1996). Psychological sense of community: Suggestions for future research. *Journal of Community Psychology*, 24 (4), p. 431-438.
- Kerka, S. (1996). Distance learning, the Internet, and the world wide web. *ERIC Digest*. (ERIC Document Reproduction Service No. ED 395 214).
- Kozma, R.B. (1991). Learning with Media. *Review of Educational Research*, 61(2), p. 179-211.
- Lave, J. & Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lepper, M.R. & Chabay, R.W. (1985). Microcomputers in education: Motivational and social issues. *American Psychologist*, 20(4), p. 217-230.
- Long, H. B. (1989). Self-directed learning: Emerging theory and practice. In

- H. B. Long & Associates (Eds.), *Self-directed learning: Emerging theory and practice*. Norman, OK: University of Oklahoma Research Center for Continuing Professional and Higher Education.
- May, S. (1993). Collaborative learning: More is not necessarily better. *The American Journal of Distance Education*, 7 (3), p.39-50.
- McMahon, T. A. (1997). *From isolation to interaction? Network-based professional development and teacher professional communication*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 408 257).
- McMillan, D.W. & Chavis, D.M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1), p. 6-23.
- Moore, M.G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education*. p 22-38. New York: Routledge.
- Moorman, C., Zaltman, G. & Deshpande, R. (1993). Factors affecting trust in market research relationships. *Journal of Marketing*, 57(January), p. 81-101.
- Palmer, P.J. (1993). *To know as we are known: Education as a spiritual journey*. San Francisco: Harper.
- Preece, J. (2000). *Online communities: Designing usability, supporting sociability*. New York: Wiley & Sons.
- Rheingold, H. R. (1991). *Virtual reality*. New York: Summit Books.
- Rice, R. (1994). Network analysis and computer-mediated communication systems. In S.W.J. Galaskiewka (Ed.), *Advances in Social Network Analysis*. Newbury Park, CA: Sage.
- Rogoff, B. (1994) Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity*, 1(4), p. 209- 229.
- Rovai, A.P. (in press). A preliminary look at structural differences in sense of classroom community between higher education traditional and ALN courses, *The Journal of Asynchronous Learning Networks*, 5(3).
- Royal, M.A., & Rossi, R.J. (1996). Individual-level correlates of sense of community: Findings from workplace and school. *Journal of Community Psychology*, 24(4), p. 395-416.
- Russell, T. L. (1999). *The no significant difference phenomenon*. Chapel Hill, NC: Office of Instructional Telecommunications, North Carolina University. [Online] Retrieved November 24, 2001: <http://cuda.teleeducation.nb.ca/nosignificantdifference>.

- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), p. 89-129.
- Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition. (2nd ed.) Chicago: University of Chicago Press.
- Twigg, C.A. (1997). Is technology a silver bullet? *Educom Review* (March/April), p. 28-29.
- Vann, B. A., & Hinton, B. E. (1994). Workplace social networks and their relationship to student retention in on-site GED programs. *Human Resource Development Quarterly* 5(2), p. 141-151.
- Walker, J., Wasserman, S., & Wellman, B. (1994). Statistical models for social support networks. In S. Wasserman & J. Galaskiewicz (Eds.), *Advances in Social Network Analysis*. p. 53-78. Thousand Oaks, CA: Sage.
- Wehlage, G. G., Rutter, R.A. & Smith, G.A. (1989). *Reducing the risk: Schools as communities of support*. New York: The Falmer Press.
- Wellman, B. (1999). The network community: An introduction to networks in the global village. In Wellman, B. (Ed.) *Networks in the Global Village*. p. 1-48. Boulder, CO: Westview Press.
- Wellman, B. & Gulia, M. (1999). The network basis of social support: A network is more than the sum of its ties. In B. Wellman (Ed.). *Networks in the Global Village*. p. 83-118. Boulder, CO: Westview Press.
- Westheimer, J. & Kahne, J. (1993). Building school communities: An experience-based model. *Phi Delta Kappan*, 75(4), p. 324-28.

Citation Format

Rovai, Alfred (April, 2002) Building Sense of Community at a Distance. *International Review of Research in Open and Distance Learning*: 3, 1. <http://www.icaap.org/iuicode?149.3.1.x>

April - 2002

Towards a Strategy for Improved Student Retention in Programmes of Open, Distance Education: A Case Study from the Open University UK

Susan Tresman

Director, Open University UK Student Retention Programme

Teaching at a Distance

Teaching at a distance has enjoyed a long history and is now established as a reputable method of education as evidenced by the establishment of numerous distance learning systems worldwide. One such system is the Open University UK, Britain's largest teaching institution, with 125,000 undergraduate students enrolled in the year 2000. Since first opening its doors in 1971, more than two million students have participated in studies at the Open University UK.

The Open University UK has a unique mission statement – open as to people, open as to places, open as to methods, and open to ideas – an “open access” policy that attracts students from a variety of backgrounds, all seeking a divergent range of study goals. With this mission mind, it is vital that the Open University UK secure the best possible chances for its students' success.

Why is Student Retention Important?

Student retention is clearly an issue of concern, the implication being that if the Open University has failed its students, the students have failed themselves. Government and financiers of higher education are concerned about their investment in higher education, which they arguably perceive as squandered through student dropout. There are also issues surrounding reputation management, with dropout cited as a key indicator of poor or substandard performance. In this context, rightly or wrongly, distance education is often perceived as a model of education that has high dropout rates. With public funding of higher education in the UK linked to various performance outcomes, funding for higher education is now based on the number of students who successfully complete courses. In other words, funding may be cut if students fail to persevere and complete their coursework.

Student Retention

The Theoretical Framework

The issue of student retention is firmly located within a specific discourse and a specific theoretical framework, both of which are open to challenge. In recent years, UK higher education institutions have been thrust into the market economy by government, and now find themselves

competing against each other for students and resources (Ball et al., 1997). Increasingly, students are being perceived as consumers, especially since the demise of the UK maintenance grants system. In simple terms, students must now finance their own higher education, primarily through the payment of tuition. Changes to the manner in which higher education is provided within the modern public sector, are clearly reflective of the government's growing concern surrounding the cost, quality and utility of higher education. To this end, the British government has adopted a series of principles for organising this particular social provision within its public sector. These principles include the need for increased access, greater integration of private/commercial interests, and allocation of public funds to fund such expansion. All this activity is hoped to pave the way to higher standards and greater accountability. Management principles have been applied to the field of education in an attempt to secure higher standards and greater efficiency of operation using discourses of excellence, quality and effectiveness (Ball, 1997). However, Ball is critical of the adoption of this "market economy" approach for three reasons. Firstly, there is a lack of engagement with sociological or other theory. Secondly, no account is taken of the political, social and economic context in which education is provided. Thirdly, it assumes that educational problems can be solved by technical means (Ball, 1995, 260-262). Instead, Ball argues for the need to look at situations and related processes as they actually exist, without clouding them with preconceived ideas. Only then can one reveal the truth of what is actually going on within existing practices, and to use data gathered to construct a theory that can duly guide policy and strategic planning. Careful observation and analysis of what is actually happening within a given institution, can lead to a theory that is both relevant to a given institution context, rather than that of the government.

Other, more traditional or philosophical approaches – many of which have been sidelined by current discourses – ask some fundamental questions. Questions such as: What is education? Education is for what and for whom? And what should education seek to achieve in relation to both society and the individual? As Carr (1997) puts it, the question we should be asking is: "What is . . . the role of education in the reproduction and transformation of the good society?" An obvious difficulty with the market economy approach to education is its assumption that students – i.e., consumers – are the best judges of their educational needs and how these should be met. This practice is, at best, open to question.

Quality Improvement Models

Quality improvement (QI) models are about institutional change and are based on industrial or commercial models of quality management, whose fundamental purpose is to improve quality, increase productivity and reduce costs mainly through the elimination of variance (Chaffee & Sherr, 1992; Capper & Jamison, 1993). Within these models, the educational process is seen as a consumer-led methodical process whose primary aim is to understand students as consumers. Put simply, student needs and expectations, as interpreted by government, must be addressed because they are consumers (Schwartz & Peterson, 1993).

Within this new and currently popular QI framework, each non-completion of a given course is seen as the failure of an institution to fully meet the needs of its "customer," and therefore it must suffer financial repercussions following such a failure. As such, considerable energy has been recently expended in an attempt to determine exactly why students (consumers) choose to dropout.

Tinto's Model

Related to the progress of conventional campus students, the most popular theoretical model that seeks to understand the process of student withdrawal is that of Tinto (1975). Applying Tinto's model to adult learners studying at a distance, Kember postulated in 1995 that students' background characteristics interact and influence their initial commitment to their educational goals and their initial commitment to their chosen higher education institution. These commitments and characteristics influence students' intellectual development and academic performance, which, in turn, subsequently determine their degree of academic integration. This model asserts that students' perceptions of their social and academic integration are predominant influences in their decision to persist (or not to persist) in their studies. In sum, Kember attempts to explain the processes that bring individuals to leave higher education. For institutions using Tinto's model, student needs are a priority. By stressing the overall student experience, Tinto maintains that retention:

“ . . . is not the goal of an institution; the goal is the social and intellectual development of students. Retention is the outcome of providing an experience so educationally beneficial and developmentally advantageous, that students will form favourable perceptions regarding the quality of their experience and decide to persist” (Peterson et al., 1997, p.138).

Tinto's model has been generally validated by considerable empirical evidence (Peterson et al., 1997, p. 134). However, some additional findings have also been gained thanks to the growing diversity of the UK's student bodies. Research focusing on older, part-time and non-residential students suggests other variables, beyond those set out by Tinto, are involved in students' decisions to withdraw or persist in their studies. These variables include students' initial educational objectives and intentions and their extra-institutional integration – i.e., the support they receive from family, peers and employers (Schwartz, 1990). Students, whose academic life is well integrated with their extra-institutional life, will be less inclined to withdraw from their studies than those for whom such integration is less well developed.

From Tinto's findings a key question has been raised: Are retention levels an indicator of students' perceptions of the quality of their educational experiences? (Peterson et al., 1997, p. 138). If so, will QI initiatives that aim to improve the quality of students' educational experiences, help facilitate student retention?

Recent research carried under the auspices of the Student Retention Project (Tresman, 2001) has revealed that a number of critical factors appear to affect persistence of part-time, mature students attending the Open University UK. These factors have been used to construct the Student Value Chain (SVC) that comprises both value enhancers and inhibitors derived from research. Students' reasons for dropping out have revealed a clear multi-dimensionality, supporting earlier findings made by Schwartz (1990). It is apparent that, in some cases, dropout occurs in relation to individual students' exceeding their personal thresholds, which they have failed to adequately establish through integration of their studies with their lifestyle. When dropping courses, they often cite: “The workload is too great.” “The courses were too difficult.” “The fees were too expensive.”

If retention is in part a reflection of students' perceptions of quality and flexibility at the interface of the institution, as well as that of their overall experiences, then by inputting new sources of value/quality into the SVC, we may be able to design and implement measures to enhance student retention. This has been the approach used to develop the “Strategy for Enhanced Student

Retention at the Institutional Level,” presented to Open University UK’s senate in May 2001. Recommendations contained within this strategy were arranged to reflect the “student-learning journey.”

Student Retention: Terminology, Definitions, and Interpretations

In terms of both its definition and connotation, student retention is problematic. Student retention is about students who do not complete courses or programmes of study, although this term can also mean enrolling but not starting the course, formally withdrawing after starting studies, ceasing to participate in studies, participating but failing to reach the required standard, or moving on to another course or institution.

In that there is an implied assumption that all “non-completion” is undesirable, the phrase “student retention” is not value free. Non-completion is widely publicised in this vein through Britain’s media. For instance, The Guardian newspaper (December 3, 1999) ran an article under the headline “University Drop-Out Reflects Class Roots,” and went on to quote Britain’s higher education minister, and the chief executive of the committee of vice-chancellors and principals, both whom spoke of “high dropout rates” and its being equated with failure. The words they used in relation to student retention include “wastage” and “attrition,” both of which carry negative connotations. But it can also be argued that within a context of flexible and transferable course offerings designed to widen access, participation, and movement across and between institutions, some level of non-completion is, in fact, can be viewed as positive. Moreover, in terms of personal development, some students’ learning objectives may be, in fact, met without formally completing a course. For example, students who drop their studies may find employment or simply regard non-completion as a brief interruption in their educational journey that is more reflective of personal circumstances than that of their long term educational goal. Nonetheless, interim results of recent research commissioned at the Open University, suggest that the vast majority who withdraw (94 per cent) still aspire to earn credit for the course/award upon which they embarked. Relevant research into these issues at the Open University UK is currently encompassed within the Student Retention Programme, which has been running since 1999 with a wide-ranging remit to examine aspects of academic and administrative significance so as far as student retention is concerned.

The Student Learning Journey

Students’ learning journey starts with initial enquiry to the university and their first tentative steps into distance education that is usually underpinned with a plethora of questions linked to concepts like life long learning, re-establishing one’s identity as a learner, assessing whether or not the distance education mode is suitable for them, and if the university matches their educational needs. More crucially, prospective students need to make informed choices. Obtaining a match between a prospective student’s actual needs and a given course of study is of vital importance. To help make this match, the provision of clear and informative information delivered in a variety of formats such as electronic, paper, and face-to-face, helps to enable prospective students to make informed choices.

In such a system, however, the burden of choice still remains with prospective students. Although they are often provided with ample advice on issues such as course descriptions, course contents, qualifications, learning skills, time management techniques, student testimonials and the like, the choices they face often remain daunting. There are no restrictions on choices in terms of level or content, irrespective of the prospective students’ past educational or life experiences.

With a half-million enquiries made by potential students in a given year, the conversion rate between enquiry and the firm commitment to enrol at the Open University, currently stands at approximately 11 per cent. Key reasons cited by prospective students for not moving forward on their learning journey at the inquiry stage include: cost considerations, uncertainty about having sufficient time to commit to a programme of study, changes in personal circumstances, and often more tellingly, difficulty making a decision among a seemingly unlimited array of choices.

During the stage between course enrolment and the start of the course (which may range between a couple of weeks to a number of months) communication between the university and new enrollees heralds the start of a fledgling relationship in the educational contract. Five per cent of all students enrolled at the Open University are known to withdraw during this stage, a figure that rises to 15 per cent of first-time enrollees.

On average 15 per cent of new and 10 per cent of experienced students withdraw within the first three months of starting a course. After three months, withdrawal rates level out, with dropouts occurring across the academic year up to exam time. Typically, an additional 25 per cent of new students and 22 per cent of experienced students chose to dropout during the duration of the course.

All higher education institutions regard student dropout as an issue. Among UK's 163 higher education institutions featured in Higher Education Funding Council data for 1999, the average projected percentage of students who started fulltime (first degree) study in 1996, and who did not obtain a degree nor transfer to another institution, stands at 16 per cent. In this context, individual figures for specific higher education institutions ranging from one per cent (Cambridge University) to 36 per cent (University of East London). However, there appears to be no value-added factoring to make individual comparisons fair in terms of (other) factors unique and specific to each institution.

From an international perspective, OECD data from 1998 show that among the 29 OECD states, including the United States, Germany and Australia, the UK's dropout rate was among the lowest at 19 per cent. This statistic can be compared to 37 per cent in the United States, 28 per cent in Germany, and 35 per cent in Australia. Additional research data suggest that withdrawal rates are generally higher for mature students involved in distance learning studying part time (McGivney, 1996), all of which are characteristics of the Open University UK's student body.

If it is to be assumed that for the majority of the students who enrolled and fully intended to complete their course(s), but failed for whatever reason to do so, then this experience of non-achievement can not only be financially costly, but a significant blow to students' self-esteem and motivation as well. When viewed from this "self-esteem/motivational" perspective, student retention is clearly an issue for the Open University UK, an issue that is central to its goals irrespective of increasing external pressures by the government to use retention rates as a key indicator of performance.

What Affects Student Progress on Their Learning Journey?

Key issues that affect student progress include specific courses in which students are enrolled and the geographic regions in which students choose to study. For example, London and other large urban centres throughout the UK tend to have more transient populations, a factor that often translates into higher student dropout rates. Also relevant is whether or not students are new to the Open University. Higher rates of dropout are recorded for novice students and students

comprising at-risk demographic characteristics (e.g., gender, age, ethnic background and previous educational qualifications, etc.). Tutorial quality is also a significant issue. In the year 2000, 18 per cent of students described themselves as “very dissatisfied” with their tutorials, the third most cited reason for student dissatisfaction, following issues of time and work pressures. Six per cent stated they dropped out because they were not happy with their tutor.

Reasons for Withdrawal at Various Points along the Learning Journey

Data from a 1998–2000 survey suggest that Open University students perceived “lack of time” as the most significant factor influencing their decision to withdraw. Domestic factors, such as balancing work and family obligations, also ranked high. Other factors such as illness, death, divorce, house removal, and job loss were also cited. When combined, these factors compound and greatly muddy the issue of student withdrawal. However, there is also evidence from survey and other research work carried out as part of the Retention Programme, that the Open University may be causing, or at least contributing, to its own students’ sense of overload. Many students report that the courses in which they enrolled took more time, or it was too dense in terms of the pace of programmes, than they had expected. Nonetheless, these data also reveals unrealistic expectations on behalf of students, in terms of what they can actually accomplish in the time available for course completion.

With respect to student withdrawal, there is considerable variation between courses. For instance, the numbers of students claiming increased pressures at home or work as the reason for dropping out varied between 32 per cent (Health and Social Care Course) and 69 per cent (Arts Course).

Other factors cited by students who chose to withdraw include “unhelpful” course information, and dissatisfaction with tutorials and tutors. Nonetheless, these surveys also reveal interesting insights into students’ expectations and how they might be met by distance education. External costs in supporting distance education studies are frequently cited as the reason for withdrawal, such as the price of attending residential schools, computing costs, travel expenses to tutorials, and childcare costs. Clearly these are all extenuating financial factors students should ideally consider before embarking on a programme of study.

Data collected by the Open University (and generally by most other higher education institutions) are not of a type or form that can be fully relied upon to show the range of students’ perceptions regarding their educational experiences that could subsequently led to their decision to withdraw. However, there are strong indications that students are under considerable pressure to juggle home, work, and study commitments, conditions that often play a factor in students’ decision to withdraw. Institutions are nonetheless in a position to anticipate potential problems, simply because external pressures interact with institutional factors in such a manner that the institution can often anticipate the challenges faced by students studying in the distance mode. Put simply, higher education institutions are usually in a position to anticipate and deal with problems when and where they arise. By working to positively integrate students into the institutional setting, higher education providers are in a position to positively influence student behaviour. This is essentially the basis of Tinto’s (1975) model for retention, which argues that if institutions concentrate on improving their students’ learning experience, they will be more likely to persist in their course of studies.

A Strategy for Addressing Student Retention Issues

The Open University has recently developed a mid-point QI strategy designed for increasing student enrolment in courses and/or programmes of study leading to awards. A number of themes that encapsulate different phases of the student-learning journey have been identified, around which strategies have been formulated to link to the Student Value Chain, a model that takes into account previous research in this area (Martinez 1997; McGivney, 1996; Peterson et al., 1997).

Managing Open Entry – Where the Learning Journey Begins

The concept of open entry brings with it potential pitfalls, the most notable being that the University's open door policy must be closely monitored so it does not become a "revolving door policy," where students are admitted only to subsequently withdraw somewhere along their learning journey.

One strategy is that higher education institutions must ensure students are not pitched into a level of study in which they cannot possibly cope. By paying close attention to admissions policies (e.g., entry restrictions to higher level courses, the use of course prerequisites, preferred entry courses at the lowest/lower course level(s), providing bridging or preparatory work prior to commencing courses of study, adequate testing and guidance from the outset), institutions can help their students achieve their educational goals in a realistic, step-by-step manner.

Provisions for Specialised Advisory and Guidance Staff – Help Students Make Informed Choices

By providing specialized advisory and guidance staff to assist students in the course selection process, students are more likely to make "informed choices" regarding their course of studies. Clearly, informed choices make for informed students who know what they can expect.

Provision of Accurate and Relevant Information – When Faced With a Wide Array of Courses, Students Must Navigate a Complex Set of Possible Choices

By ensuring that pre-course information accurately reflects the courses offered, as well as the distance mode of study practised, students are more likely to succeed in their studies, because their expectations will be more in tune with the realities of the course. The alignment of student expectations with the realities of a given course can thus be achieved by making available a coherent set of information resources (e.g., brochures, course calendars, web sites, face-to-face counselling, information sessions, etc.) that consistently describe both the demands distance education will place on students lives, as well as a preview of curriculum on offer.

Starting from when students first apply for a course, information must be collected about students' individual intentions related to their expectations. This data collection process will help to frame and address individual educational needs, as well as ascertain what a given student perceives as "success." For some students earning a formal award will be perceived as central to their success, whereas for others, any knowledge gained is perceived a "success."

Forging and Establishing Relationships – Institutions Must Proactively Focus On Establishing Relationships With New and Returning Students

Within the framework of gathering, designing and disseminating general and in-depth information about the institution and its courses, a “student induction programme” can serve to welcome both new students and those who return after taking a break from their studies. Such a programme will help to forge lasting relationships with new students and re-establish ties with those returning.

A human face can be put on distance learning by promptly matching students with a tutor who will not only shoulder responsibility for overseeing student progress, but who will also monitor and contact students perceived as being at risk of dropping out. Other useful strategies to enhance retention include establishing peer support networks to motivate students.

Course Design – Producing and Presenting Courses Well Suited to Students’ Needs

Evidence gathered from various surveys conducted as part of the Open University’s Retention Programme (supplemented with data from other areas of the university and external peer reviews) present a compelling case that issues of workload, density of concepts being taught, and the pace and manageability of the various study programmes, are all major factors that may potentially lead to students withdrawing. To combat this problem, curriculum reviews paying particular attention to student workload issues, need to be conducted at regular intervals. Where feedback indicates low student performance is linked with low satisfaction levels, it is suggested that course workload be re-examined to ensure it places realistic demands on students while remaining true to learning outcomes. It is also good practice to produce and apply standardised study templates for use across all academic units. This level of standardization helps to identify study patterns and define varying levels of workload. Within this context, curriculum managers are often helpful in providing additional guidance to students on managing workloads and promoting study skills.

Another good practise is the establishment of annual retention indicators as a central part of an internal curriculum review process. By analysing retention rates alongside other evidence uncovered during the curriculum review process, changes may be discovered that are required to improve curriculum. It is important to set retention benchmarks based on linked (feedback and attainment) performance indicators, specific to different academic units.

Procedures (i.e., rescue strategies) may also be put in place that allows students to officially interrupt their studies should extenuating circumstances dictate. Students should be permitted to carry forward any credits earned up to that point, so long as they choose to recommence their work within a reasonable period of time.

Finally, student achievement should be rewarded in a consistent manner that is meaningful to the student.

Student Support Services – Ownership of Students Support Services Helps Measure Success

There must be a system of formal “process ownership” within various sectors of the university community. It is important for “process owners” to be able and willing to assist students through critical retention milestones such as the application process, course selection, studying for exams, and providing after-exam support. Each “process owner” needs to understand the fundamentals of two-way communication and the role ongoing support plays in encouraging persistence and discouraging withdrawal. Support may be provided by:

- A course tutor, who through the execution of their tutorial responsibilities, clearly and consistently encourages persistence and discourages withdrawal.
- A specialist advisory staff member, who during the application process, strives to closely match student needs with their chosen course of study. Advisory staff must also help to students to set realistic and achievable goals.
- Students can be given ready access to their own academic records, thus being enabled to personally assess their own progress over the duration of their studies.
- Other retention strategies include establishing “hand-over” or “continuity of care” procedures, designed to ease the way for students passing on to new courses and different tutors. Support mechanisms can also be developed for vulnerable students (in terms of what we know from research as indicated by lower student retention rates) such as those with special needs, minority ethnic groups, and those studying in large urban areas.

The Educational Community – Develop a Sense of Community That is Relevant in a Distance Education Setting

By developing peer support and mentoring networks, the student experience can be greatly enhanced. Such networks can include student ambassadors, career advisors, and academic and course counsellors.

For those students who choose to leave the university for any reason, mechanisms must be established to encourage these “drop-outs” to someday return to their studies. This can be achieved by following-up with telephone calls, formal correspondence and the like.

Retention Bonuses – Develop “Retention Friendly” Financing and Incentive Schemes to Encourage Student Persistence

Good tools to consider are loyalty bonuses, vouchers, discounts that reward successful course completion, and graduation incentives to for students who are “nearly there.”

Reflection on this Topic

If student persistence and withdrawal are significantly influenced by students’ study and learning experiences (Tresman & Fox, 1996), then it is reasonable to assume that higher education institutions are in a position to increase their retention rates by improving their students’ experiences (Martinez, 1997). Such is the intention of The Open University, UK. By putting into operation a process whereby the student learning process is mapped from genesis to course completion, issues of “non-completion” be formally recognised as problems that need to be resolved. Thus, higher education institutions can be better equipped to compete in the so-called market economy.

To date, the causes of non-completion at the Open University have been investigated and a retention strategy has been developed. These institutional responses are currently being debated and implemented across the organisation, after which the approved strategy will be monitored and adapted according to data gathered from institutional performance indicators.

References

- Ball, S. (1995). Intellectuals or Technicians? The urgent role of theory in educational studies. *British Journal of Education Studies* 43(3), 255-271.
- Ball, S. (1997). Policy sociology and critical social research: a personal review of recent education policy and policy research. *British Educational Research Journal* 23(3), 257-274.
- Ball, S., Maguire, M., and Macrae, S. (1997b). The Post-16 Education Market: Ethics, interests and survival. Paper presented at BERA Conference, York, UK. September 11-14.
- Capper, C., and Jamison, M. (1993). Let the Buyer Beware: Total quality management and educational research and practice. *Educational Researcher* 22, 25-30.
- Carr, W. (1997). Philosophy and method in educational research. *Cambridge Journal of Education* 27(2), 203-209.
- Chaffee, E., and Sherr, L. (1992). Quality: Transforming postsecondary education. *ASHE-ERIC Report No 3*. Washington, DC: George Washington University, School of Education and Human Development.
- Kember, D. (1995). *Open Learning Courses for Adults: A model of student progress*. Englewood Cliffs, NJ.: Education Technology Publications.
- McGivney, V. (1996). *Staying or leaving the course*. Leicester, UK.: NIACE.
- Martinez, P. (1997). Improving Student Retention: a guide to successful strategies. Further Education Development Agency, London.
- Peterson, S, Kovel-Jarboe, P., and Schwartz, S. (1997). Quality Improvement in Higher Education: implications for student retention. *Quality in Higher Education* 3(2), 131-141.
- Schwartz, S. (1990). Application of a conceptual model of college withdrawal to technical college students, a paper presented to the American Research Association Boston, April 1990.
- Schwartz, S., and Peterson, S. (1993). Student Perceptions of Quality: Implications for retention in vocational education. *Journal of Vocational Special Needs Education*, 15, 13-18.
- Tinto, V. (1975). Dropout Form Higher Education: A theoretical synthesis of recent research. *Review of Education Research* 45, 89 – 125.
- Tresman, S., and Fox D. (1996). *Meeting In-service Needs in Primary Science Using Reflective Diaries: An Occasional Paper, No. 10*. Centre for Science Education, Open University UK.
- Tresman, S. (2001). Learning Journeys and Student Retention in Programmes of Open Distance Education: a case study from the Open University UK, Proceedings of the 20th World

Conference on Open Learning and Distance Education: The Future of Learning – Learning for the Future: Shaping the Transition. April 1-5, 2001, Düsseldorf Germany.



April - 2002

Electronic Tutorials: Indonesian experience

Tian Belawati, Mohamad Toha Anggoro, A.P. Hardhono, and Tri Darmayanti
Universitas Terbuka
Indonesia

Abstract

As in other developing nations, important concerns surrounding education in Indonesia involve two issues: quantity versus quality. Quality concerns have now been somewhat addressed by the establishment of the Indonesian Open Learning University (*Universitas Terbuka*) in 1984. The concern for quality, however, has not yet been completely resolved. Learning support, believed to be key for achieving good quality distance education, has been limited. This paper presents the results of two pilot projects that examined tutorials provided via Internet and Fax-Internet technologies. It is a report that also shows that the *Universitas Terbuka* is faced with both visible and invisible challenges. Visible challenges include limitations in the availability of technology infrastructure and issues of inadequate access, while invisible challenges include the readiness of Indonesian people to adopt and take advantage of new technology for educational purposes. Despite the results of the pilot project, it is suggested that *Universitas Terbuka* should continue to utilize Internet and Fax-Internet as two of its communication channels with students.

Keywords: Electronic tutorials; Fax-internet tutorials; Indonesian distance learning; Internet tutorials; Internet; Indonesia

Background

Entering the new millennium is both exciting and intimidating for countries such as Indonesia. The general consensus is that Indonesia has entered the information age, and that the country will not be exempt from the current forces of technological development and globalization (Taylor, 1998). Clearly, the impact of the information age has raised many worries and challenges. The analogy that best describes the situation is that “while Indonesians are still struggling with malnutrition, they are also facing heart disease as the number one killer.”

Indonesia has been facing a multi-facet crisis since mid 1997, beginning with its monetary and economic crisis. With economic, political, and social stabilization at stake, other social sectors – including education – are often seen as a low priority. The indefinite cancellation of educational programs is clear evidence of this current trend.

Today the most important concerns in education in Indonesia (as in many other developing nations) involve two issues: quantity versus quality. Quantity of education refers to the coverage of educational provisions, namely: How many people have access to education? How many schools are available? Who has access to education? To a degree these concerns have been

addressed by the establishment the *Universitas Terbuka* in 1984, an initiative that has increased public access to higher education, especially for those who cannot engage in study due to demographic, economic, time or space barriers. Operating for 14 years, *Universitas Terbuka* has served more than 400,000 students throughout the country, a statistic that reflects a national participation rate of approximately 12 percent of the total student population currently attending Indonesia's 200 plus higher education institutions.

Quality concerns have not yet been completely resolved. Despite its success in terms of increasing student access (quantity), the quality of *Universitas Terbuka's* educational programs and initiatives are perceived as questionable. Can *Universitas Terbuka*, which employs distance education method of instruction, deliver the same quality of education as "good teachers" in the classroom? Can interactions between teachers and students be accommodated? Can distance delivery provide adequate feedback to students? Indeed, like many other distance education institutions, *Universitas Terbuka* relies on traditional printed course materials and to a lesser degree broadcast media like radio. The University also provides limited student access to newer technologies such as telephone, videocassettes and computers. In short, *Universitas Terbuka* is struggling to address questions surrounding quality. To date, the main learning medium used by the University has been print-based materials supplemented by radio and to a lesser extent video and television broadcast programming. In other words, learning support, believed by many to be key for achieving good quality distance education, has been limited.

Universitas Terbuka has nonetheless strived to employ different tutorial models to enhance and facilitate student support. These models include face-to-face and distance tutorials delivered via regular mail, radio, television, and more recently via Internet and Fax-Internet technologies. Tutorial models using Internet and Fax-Internet are still at their introductory stage at the University. This article will focus on the outcomes of two pilot tutorial projects undertaken by *Universitas Terbuka*: The first pilot solely using the Internet as its communication channel with students, and a second pilot using a less expensive combination of Fax-Internet technologies.

The Design of Tutorials Using Internet and Fax-Internet Technologies

Internet Tutorials

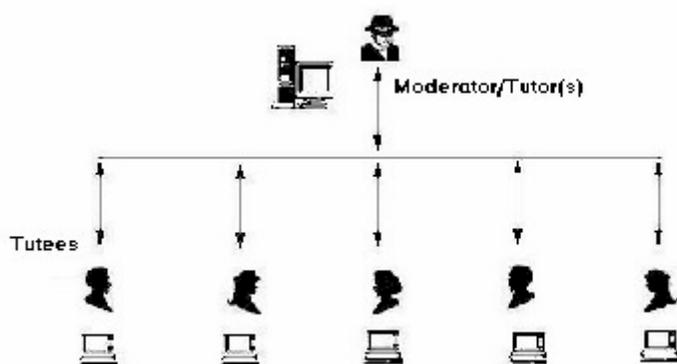
Since the establishment in 1997 of the national electronic communication infrastructure called "Nusantara-21," the Internet has been seen by many in Indonesia to be a promising information and communication medium. An experimental study conducted to test the feasibility of counseling at a distance via the Internet showed the Internet to be an effective medium for communicating with students (Belawati, 1998). Despite concerns surrounding high access costs and low computer literacy among students, those who participated in the study expressed satisfaction of having being able to communicate directly with *Universitas Terbuka's* counselors.

Intended for affluent students who live in relatively urban areas and can afford the necessary costs, but who are too busy to attend rigidly scheduled face-to-face tutorials, this tutorial model is seen as a feasible alternative. Internet facilities are now available for public use in many telecommunication kiosks (known as Wartels), located in Indonesia's cities. Rental costs for accessing public Internet services in Wartels are also relatively affordable, especially when it shared among several students. For example, when shared by ten students, the cost for Internet access per student is about Rp. 3.500 (50 cents US per month).

Tutorials delivered via the Internet (i.e., tutorials via emailing-lists), are similar to face-to-face tutorials. This method allows students to interact with both their tutors and peers. But unlike face-to-face tutorials, these interactions are asynchronous and feedback between student and tutors is delayed (Toha et al., 1999). The strength of Internet tutorials lies, however, in its ability to overcome scheduling conflicts usually inherent in face-to-face tutorial settings. Since student/tutor interactions are not conducted in real time, students can post questions, raise issues, and read tutors or other students' responses at their convenience. Similarly, tutors have increased flexibility in terms of scheduling their tutorials, preparing materials, and responding to students' questions.

The tutorials are designed to employ Internet email applications. Every course has a private email list. Four types of email lists are available: 1) open and non-moderated; 2) open but moderated; 3) closed and non-moderated; and 4) closed and moderated. Based on the rationale that tutorials are exclusively provided for *Universitas Terbuka's* students, the model chosen for the pilot was the closed and moderated email list (see Figure 1).

Figure 1. Communication within tutorials via the Internet



Each course was tutored by one or more tutors and assigned a separate group email list, which was subsequently moderated by the tutor coordinator. Tutors were responsible for preparing materials for at least five student contacts using email as their mode of communication. Put simply, email would be used to initiate, maintain, and facilitate student interaction. Emailed materials were in the form of course and textbook summaries, exercises, or questions. To ensure tutors adequately maintained the tutorials, they are obliged to:

- Initiate at least five student contacts
- Check their email at least once every three days
- Respond to any email received from students within 72 hours
- Make arrangements for his/ her replacement in case of absence (i.e., three days of more)
- Monitor and evaluate the tutorial activities
- Write a resume of tutorial contents (including the most frequently asked questions) at the end of the semester

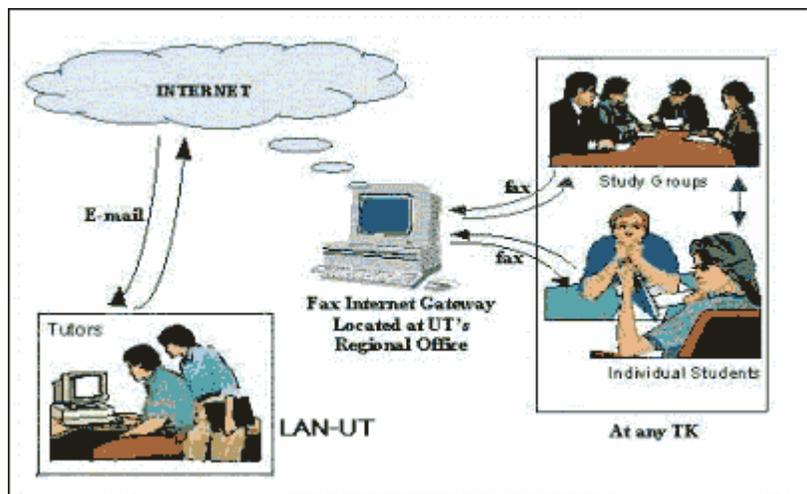
Fax-Internet Tutorials

Many students attending *Universitas Terbuka* work in low-income jobs. Although low-cost public Internet access is readily available in Indonesia, many students still find Internet access to be prohibitively costly. To overcome this barrier to education, the University has developed an alternative delivery model that combines Internet with less expensive facsimile technology, a strategy that lowers costs while expanding the University's Internet tutorial system to reach less advantaged students. The only difference between the two systems rests in the students' point of access: Internet using email versus a less expensive combination of facsimile and Internet email.

Within the design of Internet tutorials, students were required to have Internet access and basic computer skills (i.e., opening and sending email). Conversely, students participating in the combination Fax-Internet tutorials were required only to have access to a fax machine, older but reliable technology that is widely available for public use in Indonesia's telecommunication Wartels. When communicating via fax, students do not require basic computer skills to participate (Hardhono & Belawati, 1998).

The cost for sending and receiving faxes range from Rp. 1000 to Rp. 5000 (about 60 cents US), depending on the destination and applicable long distance charges. With the convergence of facsimile with Internet technologies, students no longer send their faxes to another fax machine. Instead, students send their faxes through the closest "fax gateway" installed in the University's regional offices, a system that transmits students' faxes to tutors' email systems. In turn, messages from tutors are sent through the Internet as email and received as faxes by students, a process that lowers the barriers to education associated with low computer literacy and purchasing Internet access. Fax-Internet technology also lowers *Universitas Terbuka's* operational expenses. Figure 2 depicts the communication design of tutorials through Fax-Internet media.

Figure 2. Communication within tutorials using Fax-Internet technology



The Implementation of Tutorials Through Internet and Fax-Internet

Preparation

Tutorials are currently designed for 40 courses. Selected by individual faculties, these courses are based on their level of difficulty as determined from low examination scores. Once the courses and the tutors were selected, they attended a two day long training session that focused on such skills as:

- Familiarization of the email software (Pegasus mail)
- Email management techniques for each email list, specific to each course
- Development of learning materials for contact initiation
- Technical skills, such as posting and responding to questions using email

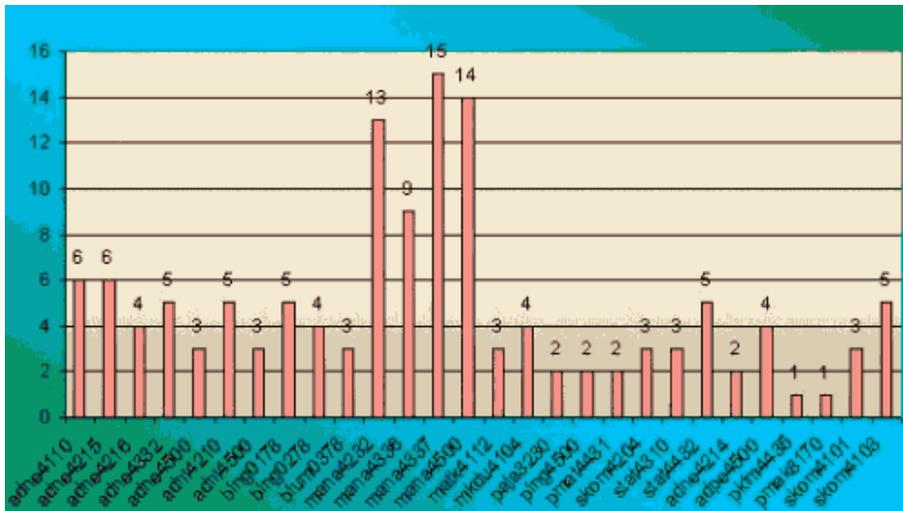
While tutors were busy preparing their tutorial materials, the new tutorial model was marketed to students using promotional emails sent to approximately 400 students identified as having previously sent email to the *Universitas Terbuka* website. Leaflets outlining the tutorial courses were also distributed through all *Universitas Terbuka*'s thirty-one regional offices. As well, face-to-face presentations were also held at the University's regional offices. Data gathered from a questionnaire showed that 38.5 percent of the students enrolled in the tutorials received promotional information via email; 23 percent received promotional information from the University's website; and only 7.8 percent from such sources as leaflets and oral presentations.

Student Participation Rate

Tutorials via the Internet

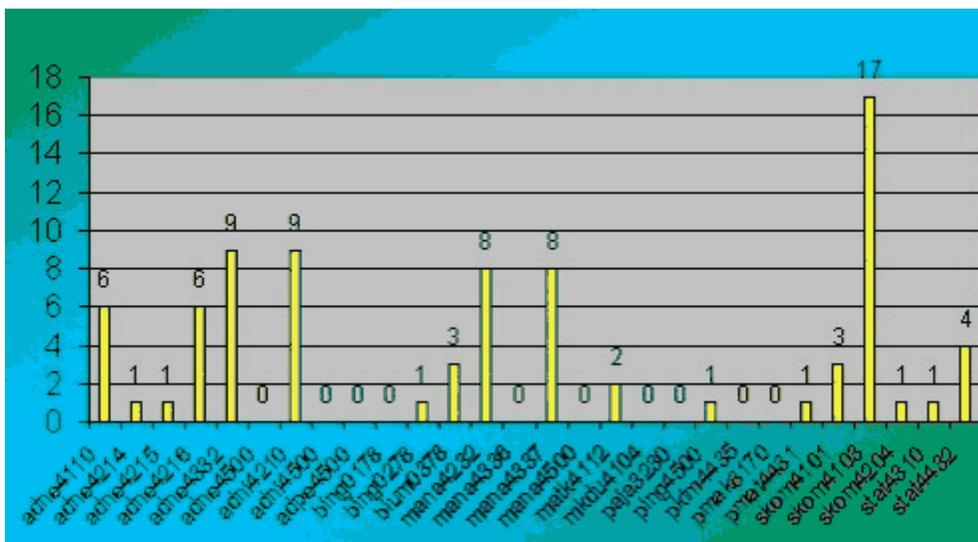
Student participation can be analyzed on two levels: first, the number of students enrolled in each course; and second the frequency of interaction (contact) between students and tutors during the tutorial sessions. Of the 40 courses available to students, *Universitas Terbuka*'s Marketing Management I course had the highest enrollment numbers. Figure 3 shows student enrollment numbers for each course that used the Internet tutorials.

Figure 3. Student enrollment rate per course



Students enrolled in SKOM 4103 (Introduction to Public Relations) were the most active. While only five students subscribed to this course, the frequency of contact was far higher than that of students enrolled in any other course. Figure 4 shows the student/ tutor interaction rate of each course during the pilot project. Figure 4 also shows that in some courses no interaction occurred between tutees or tutors. This is interesting, given that tutors were required to send emails to at least five initial student contacts.

Figure 4. Student/ Tutor interaction rates per course



Even though this data appears to be discouraging, other sources of data show that tutors nonetheless received email from their students albeit through alternative addresses such as the Center for Student Services (*pelma@p2m.ut.ac.id*) and the Information Unit (*info@p2m.ut.ac.id*). For example, the tutors of ADNE 4500 (Written Comprehension Examination) received 15

emails via these two alternative email addresses; however, they were not recorded by the pilot project's email log. This supplementary information could be interpreted to mean that the actual electronic interaction between students and tutors was much higher than shown in Figure 4. However, this finding also suggests that the electronic tutorial introductory sessions need to be redesigned and intensified in the future.

The electronically recorded student participation rates in the tutorials were also supported by the data gathered through the questionnaire. Thirty eight percent of the 13 students who responded to the questionnaire admitted that they never sent email, and among those who did, the number of email sent was low with only about one or two emails sent during the entire two-semester long pilot project. In sum, the total number of email transactions recorded during the pilot project was 82, while data collected from 13 returned questionnaires show that 54 percent of the students had received or sent at least one email.

With regard to the low student participation rate: 1) Forty-three percent of students questioned mentioned that their lack of confidence with email subsequently resulted in their not adequately understanding course materials. 2) Fourteen percent admitted to confusion about how to send email. 3) Twenty percent felt that the tutorials were irrelevant. 4) Fourteen percent claimed that they did not know their tutors' email addresses. The second and the fourth reasons listed above indicate that for electronic tutorials to be successful, students need to be trained how to use email and emailing lists, particularly on how to send and retrieve email. The other two reasons indicate that students still do not understand the purpose of tutorials, which ironically is to help them comprehend the course materials being tutored. Misunderstanding about the purpose of tutorials was also revealed by the nature and content of students' questions. Only 35 percent of the questions received from students directly related to course materials, whereas the majority of questions concerned administrative issues.

Tutorials through Fax-Internet

Unlike the tutorials through Internet, which can be accessed by students throughout Indonesia, tutorials through Fax-Internet is only available for students within the University's Fax-Internet Gateway (FIG) service area. Due to resource limitations, the FIG is currently only located in seven (out of 31) of *Universitas Terbuka's* regional offices: Bandung, Bogor, Jakarta, Jayapura, Pontianak, Purwokerto, and Surabaya.

Student participation rate in these tutorials was low: only 20 student-sent faxes were received during the two semester-long pilot project, nine of which involved strictly administrative matters. However, each fax contained between one and nine questions. Table 1 shows the number of faxes and questions received per course. As shown in Table 1, few students took advantage of the Fax-Internet technology as their communication medium. This is interesting, because it was assumed that those who had enrolled in these courses desired this form of tutorial as a lower-cost alternative to Internet tutorials. One possible explanation for low student participation was that promotions for Fax-Internet tutorials and Internet tutorial were conducted as one package. In short, it appears that the students were not aware of the distinctions and differences between the two communication channels. The leaflet and the emails sent to students were perceived as a singular promotion for Internet tutorials only.

Table 1. Number of Faxes received per course

Course	Number of Faxes Received	Number of Questions Asked					
		1	2	3	4	6	9
ADNE4215	2		2				
ADNI4110	1		1				
ADNI4500	1						1
EKON4112	3	1			2		
MANA4110	1					1	
MANA4232	1				1		
MKDU4104	1			1			
MKDU4107	1		1				

Table 1. Number of Faxes Received Per Course

Tutor Responsiveness Rate

Tutorials via the Internet

Tutor responsiveness to incoming email was likewise disappointing. Even though tutors initially agreed to adhere to minimum performance guidelines, they failed to do so (i.e., tutors were to initiate contact with students, check their email at least once every three days, and respond within 72 hours to any incoming email, etc.). As a result, a test-email was sent to tutors to determine their overall responsiveness to email. This test-email revealed that only 19 out of the 98 tutors (19 percent) involved in the pilot project checked and opened their email (sent as a test case) within five days; and 80 tutors (81 percent) did not even open their email account until after the report was written. Furthermore, only 27 percent of tutors, as they had agreed prior to the launch of the pilot project, wrote a resume and a FAQ of the tutorials at the end of the semester.

Tutorials through Fax-Internet

Similar to the experiences of Internet tutorials, tutors were not overly responsive to students' questions sent via fax. The University's electronic records indicated that of the 20 faxes received during the pilot phase, only one student received response from their tutor. This, however, does not necessarily mean that students receive no response at all. When asked, tutors claimed that they responded to students' questions via fax – not email. This finding indicates that tutors did not entirely understand the purpose of using the FIG – i.e., reducing the University's costs related to long-distance charges using fax technology.

The above data clearly show that the tutors failed to demonstrate a high-level of commitment towards their tutorial responsibilities. Tutors often cited limited availability of computers and time constraints as reasons for not adhering to their new tutorial responsibilities. Although these explanations could be accepted to some extent, conducting tutorials nonetheless remain one of their main responsibilities as academic staff. This situation suggests that the University's academic staff need to be retrained, although admittedly the availability of computers needs to be increased as well. It has been determined that at the ideal tutor to computer ratio to support electronic tutorials is 1:5; whereas at *Universitas Terbuka*, the current tutor to computer ratio is 1:20.

Factors Related to the Success of Tutorials

Aside from the apparently low commitment on behalf of the tutors, other factors stemming from technical and non-technical difficulties also hampered the overall performance of the electronic tutorials. Technical difficulties such as mistakes in writing down email addresses, use of free

email for accessing the tutorials, and mistakes in registering (subscribing) to course emailing-lists, were commonly cited.

Within the emailing-list application, email was supposed to be sent to a given email-list address as identified by a requisite course code (e.g., ADNE4335 is the email-list for the course ADNE 4335). In this manner, all emails would be emailed to the same account, which was to be moderated by a tutor. However, many students held the mistaken belief that these email-lists were not a group-list per say, but one-to-one communication. As a result, students often mistakenly sent their email directly to individual's using their personal email addresses, thereby bypassing the group discussion emailing-list system altogether. This, of course, created a condition in which some of the emails remained unmonitored and worse required the moderator to response to individual questions, rather than the tutorial group as a whole.

Problems caused by free email facilities, popular with many students, was also a factor that was unanticipated by the manager of the email server. Email sent from free email providers such as Hotmail, could not be processed by the University's email server. Therefore, such email had to be manually forwarded, requiring extra expense in terms of staff time and effort.

Lastly, typing mistakes were often made by students during their attempts to subscribe to the group tutorials. The electronic mechanism does not tolerate mistyping. The design for subscribing was: Subscribe CODEXXX with no space between the "CODE" and the number "XXX" - e.g., Subscribe ADNE4335. Therefore, if a student typed "Subscribe ADNE 4335" with a space between the letters and numbers, the registration could not be processed; hence the student was not able to participate in the tutorials.

Combined with the tutors' previously mentioned defenses (i.e., limited availability of computers and time constraints), tutors also said that low student participation and interaction had a dampening effect on their overall motivation. Many tutors claimed this was why they did not regularly check their email lists as originally agreed. In cases where tutorials were handled by a team comprising of more than one tutor, the organization and setting-up of team meetings were said to be next to impossible. Interestingly, these same tutors did not think to use their own email systems to help conduct asynchronous meetings. This demonstrates that the tutors were not yet comfortable using email as a means of communicating amongst themselves, let alone with their students. Low tutor participation can also be seen from a different angle, such as the need for *Universitas Terbuka* to redesign its policies to support the implementation of this tutorial form. There are also some aspects of day-to-day management related to the success of Internet tutorials that should be highlighted. First, the current workload of tutors is presently dominated by low-level administrative tasks often performed at the expense of their academic responsibilities. Therefore, it seems advisable that the University should contemplate redefinition of its tutorial staffs' job descriptions. Likewise, there is no official policy at faculty level that encourages tutors to learn and optimize their tutorial teaching activities via the Internet.

Conclusion

Tutorials are an integral part of distance education, a fact that is well understood by *Universitas Terbuka* as evidenced by its ongoing effort to provide tutorial sessions using different media. Electronic tutorials conducted through Internet and Fax-Internet technologies are simply the latest tutorial delivery model that has been piloted. The survey conducted prior to the pilot project revealed that the Indonesian electronic communication infrastructure has expanded sufficiently to support increased student access through the use of Internet and Fax-Internet technology. Data

also show that the combination of Internet/ Fax access available through Wartels cost less and is thus more affordable for *Universitas Terbuka's* poorer students. However, implementation of these two electronic tutorial pilot projects also shows several important issues need to be addressed for these tutorials to reach their potential. The issues that need to be addressed include tutors' commitment to carrying out their responsibilities, tutor/ student familiarization with the electronic medium, as well as the University's need to increase the availability of computers.

In summary, this study suggests that the *Universitas Terbuka* should continue to use Internet and Fax-Internet technologies for tutorial purposes. But the University needs to take practical steps to urge its academic staff to upgrade their skills to become more electronically wired to the global communication network. Last, but not least, *Universitas Terbuka* needs to collaborate with external institutions to promote the establishment of remote Internet access points, enabling the University to expand its reach and strengthen its ties with students widely dispersed throughout Indonesia.

References

- Belawati, T. (1998). *Mediated Counseling Services: an effort to increase student persistence in distance education*. Unpublished research report. Jakarta: Universitas Terbuka.
- Belawati, T. (1996). *Increasing persistence in Indonesian post-secondary distance education*. Unpublished Doctoral Dissertation, University of British Columbia: Canada.
- Darmayanti, T. (1993). *Readiness for self-directed learning and achievement of the students of Universitas Terbuka (The Indonesian Open Learning University)*. Unpublished Master of Arts thesis, University of Victoria: Canada.
- Dunbar, R. (1991). Adapting distance education for Indonesians: Problems with learner heteronomy and a strong oral tradition. *Distance Education*, 12(2), 163 – 174.
- Garrison, D. R. (1987). Researching dropout in distance education. *Distance Education*, 8(1), 95 – 101.
- Hardhono, A. P., and Belawati, T. (1998). *Baseline surveys for the utilization of fax-internet technology for distance learning supports*. A Proposal submitted to PanAsian R&D Programme. Jakarta, June 1997.
- Irish, G. (1978). Persistence and dropout in adult education: their relation to differential reinforcement of attendance. Unpublished doctoral dissertation. Columbia University, NY.: USA.
- Kember, D. (1989). A Longitudinal-process model of drop out from distance education. *Journal of Higher Education*, 60(3), p. 278 – 301.
- Open Learning Agency (OLA). (1991). *Quick facts: Decade at a glance* Brochure. Vancouver: Canada.
- Roberts, D. (1984). Ways and means of reducing early student drop-out rates. *Distance Education*, 5(1), 50 – 71.

- Taylor, J. C. (1998). *The Death of Distance: The birth of the global higher education economy*. Plenary address presented and the ICDE Standing Conference of Presidents, Hyatt Coolum, Queensland, Australia, 13-16 September 1998. Retrieved January 10, 2002, from: <http://www.usq.edu.au/DEC/STAFF/TAYLORJ/confer.htm>.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89 – 125.
- Toha, A., Belawati, T., Hardhono, A. P., and Sigit, A. (1999). *Tutorial tertulis via Internet dan Fax-Internet: Panduan operasional untuk UPBJJ (Written tutorials through Internet and Fax-Internet: Operational guidelines for regional offices)*. Unpublished manuscript, Universitas Terbuka. Jakarta: Indonesia.
- Toha, A., Belawati, T., Hardhono, A.P., and Sigit, A. (1999). *Tutorial tertulis via Internet dan Fax-Internet: Proposal uji coba (Written tutorials through Internet and Fax-Internet: Pilot Project Proposal)*. Unpublished manuscript, Universitas Terbuka. Jakarta: Indonesia.
- University of British Columbia. (1992). *UBC 1992 fact-book*. Vancouver: Canada.
- Universitas Terbuka. (1998). *Statistik mahasiswa (Student statistics)*. Biro Administrasi Akademik dan Kemahasiswaan. Jakarta: Indonesia.
- Universitas Terbuka. (1999a). *Panduan penyelenggaraan tutorial tertulis (Guidelines for administering written tutorials through correspondence)*. Unpublished manuscript.
- Universitas Terbuka. (1999b). *Panduan penyelenggaraan tutorial radio di UPBJJ (Guidelines for administering radio tutorials in regional offices)*. Unpublished manuscript.
- Woodley, A., and Parlett, M. (1983). Student drop-out. *Teaching at a Distance*, 24, 2 – 23.



April - 2002

Online Learning Activities: Beginning an international collaboration

Tom Nickel
Utah State University

Introduction

Early Sunday morning, April 1, 2001, a U.S. Navy EP-3E Aries II surveillance plane collided with a Chinese fighter jet, causing the death of the Chinese pilot and forcing an emergency landing by the U.S. aircraft on Hainan Island, in the People's Republic of China. Political relations between the United States and China had been deteriorating for months during the Spring of 2001 -- it was the stated intention of newly-elected President George W. Bush to move American policy toward China from "strategic partnership" to "strategic competition."

Against this backdrop, Chinese and American students from three different graduate-level programs participated in a series of collaborative learning activities through the Internet, under the direction of the Department of Instructional Technology, at Utah State University (USU). Two of the programs were based in Utah: Twelve USU graduate students enrolled in an on-campus course in Distance Education, and a cohort of ten elementary and secondary in-service teachers in an online Distance Learning Endorsement (DLE) Program. The third group consisted of four English-speaking Chinese students in a Masters program in Educational Communications at South China Normal University (SCNU), Guangzhou, People's Republic of China, as well as a recent graduate of that program.

Small as it was, it was, of course, the SCNU group that made the experience unique and highly motivating to the American participants. The online learning experience was an initial step in creating a broader and deeper joint program between USU and SCNU in the area of instructional technology. There were numerous obstacles, only some of which were expected. The political event that took place could not have been anticipated, and the incident seemed to lend even greater importance to the development of Web-based learning communities among people from different nations.

Background and Goals

The seeds of the USU-SCNU collaboration were planted at an educational conference on "Learning and Teaching Online" held in January, 2001 in Guangzhou, China, for which SCNU was the sponsoring university. At that conference, an Instructor in Distance Education at USU met with Wang Guo Jian, Vice President of SCNU and Xu Fuyin, Dean of the Faculty of Educational Communication and Technology, and proposed a small-scale cooperative project utilizing simple technology, such as email, at the beginning.

Both of the SCNU representatives were receptive to the idea, which involved no new curriculum development or university credits to negotiate, and no complex or expensive hardware. For Professor Xu, it was simply a matter of recruiting a group of students confident enough in their English language capabilities to feel comfortable participating. After the conference, the USU Instructor was already scheduled to teach two Distance Education classes back in the United States, one online and one classroom-style. Along with the Chinese students, these two groups would become the basis for the project.

Details were discussed during the month of February and the program began in early March, only six weeks after the initial meeting. As stated in a Memo of Understanding between the two universities, finalized on February 23, the purpose of the collaboration was:

To provide an opportunity for instructional technology students from USU and SCNU to participate in shared online learning activities. By working together in an online learning environment, students will find what their national cultures have in common and will also benefit from exposure to different points of view. It is expected that the USU-SCNU Distance Learning Collaboration program will help students appreciate and respond positively to the global nature of e-learning.

The lack of specificity was intentional: the initial ten-week program was viewed by both institutions as an exploratory step. Identifying explicit and measurable outcomes in advance was premature.

The actual forms of online collaboration to be employed, however, were clearly described in the Memo, as summarized below:

- 1) Threaded Discussion: A moderated discussion of current events in distance education will take place over a 4-6 week period. Utah State University will host the discussion on its WebCT server and will supply the moderator.
- 2) Early in the overall collaboration, there will be a text-based instructional chat. This will be a synchronous event, taking place in the late afternoon at USU and the next morning at SCNU.
- 3) The distance learning collaboration will conclude with an email-based game in which participants speculate on various scenarios about the future of online learning.

These activities comprised the initial collaboration. An important characteristic they all share is automatic documentation – transcripts and other archived records generated by the systems that support chats, discussions and email lists. Thus, the entire experience was captured and is available for research and analysis, maximizing the learning potential.

The Discussion

The online course management system most widely used and readily supported at USU is *WebCT*. It contains a threaded discussion tool, which was easily accessible to the SCNU students after passwords were issued to them. Both groups of USU Distance Education students were already using the same discussion forum.

The USU students were asked to post brief introductions, and to conclude with a question for the SCNU students. The goal was to create a forum for asynchronous interaction in which

Nickel, Online Learning Activities: Beginning an international collaboration

participants would learn something about each other, as well as explore issues of education and technology. It also created a welcoming environment for the SCNU students in that it was clear the American students were expecting them and looking forward to the dialogue.

As soon as the SCNU students were able to proceed, they joined the discussion in a flurry of responses and original posts. The following excerpted sample illustrates how the USU introductory statements began to generate interaction (participants used their real names in the discussions and chats, but they will be identified by program affiliation here):

Message No.854:
posted by [USU Student1], Fri, Mar. 2, 2001
Subject: Introduction

I am from a beautiful Southwestern French city, Biarritz. It is by Spain, on the Atlantic Ocean, by the mountains called "the Pyrenees" and the green countryside of the Basque Country. What I am doing in Utah? I am a student in the Instructional Technology department at USU. I've been in the program since last September, and I am glad to be there. My turn to ask you a question: Here in the U.S, the relationship between professors/students is extremely friendly especially at the graduate level. In fact, it is more a colleague/colleague type of relation. Do you experience the same type of relation with your professors in China?

Message No. 884: [Branch from no. 854]
posted by [SCNU Student1] on Wed, Mar. 14, 2001, 07:59
Subject: Re: Introduction

Hello! I am interested in your question. As I know, some professors, especially famous specialists, in China are kind and equal to their students. They encourage the students to express their different views from themselves because sometimes students hesitate to disagree with professors who have a lot of prestige. I have attended a meeting on evaluating classes recently. Mr. L, a famous professor on instructional technology in China, and US took different opinions. He valued our opinion and decided to check the video of that class again. (I wonder if I expressed myself clearly, due to my poor English and some difference between American culture and Chinese culture.)
L

Message No. 886: [Branch from no. 884]
posted by [USU Student2] on Wed, Mar. 14, 2001, 09:03
Subject: Re: Introduction

L,
It is nice to hear from you and you are doing wonderful at expressing yourself in English! In your comments you stated that students hesitate to disagree with their professors. Is this because of your social beliefs or personal feelings? For example, I myself do not openly disagree with my professors. The reasons that I don't disagree are because I don't want to get a bad grade or I lack the knowledge or experience to back up my views.

Nickel, Online Learning Activities: Beginning an international collaboration

Message No. 894: [Branch from no. 886]
 posted by [SCNU Student1] on Wed, Mar. 14, 2001, 21:50

Subject: Re: Introduction

C,
 I am excited to hear from you and am grateful for your encouragement. I rarely give my opposite opinion in public, mostly because I don't want to break the harmonious tie with a little divarication. Provided our difference are not against my ethical belief, I prefer making full preparation and find another chance to tell him. As what you had said, we have no enough evidence, indeed, to back up our views on most occasions.

Over 150 messages were posted in the WebCT-based discussion during the first two weeks of interaction. For the American students, the link between participation and grading was never made explicit—when the courses were planned, an international collaboration was not even envisioned. In the USU-SCNU program, the opportunity to interact directly with Chinese students who shared a common interest in instructional technology led to more frequent and enthusiastic posts by the American students.

In addition to responding to the questions they found waiting for them, the SCNU students introduced themselves and posted questions of their own:

Message No. 874:
 posted by [SCNU Student1] Wed, Mar. 14, 2001, 05:34
 Subject: introduction of a Chinese girl in SCNU

I was born in a town in north China, which is famous for kites and where there is a international kite festival every year. Although my hometown is not as rich as Guangzhou, the city where I am now, I would love her forever. I came to SCNU last autumn after I graduated from Shandong normal university last summer. There is about 2,000 kilometers between home and the school. So it is too long for me to usually go home. I major in instructional technology and am doing research in educational TV, a unfashionable field. I don't know how to deal with the relationship between technology and theory since we have limited time for study. In addition, I am eager to become a teacher because I like children very much. And I want to know your opinions on teacher's role in class.

L

Message No. 905: [Branch from no. 874]
 posted by [DLE Student1] on Fri, Mar. 16, 2001, 17:49
 Subject: Re: introduction of a Chinese girl in SCNU

Hello L!

I was interested in your introduction. My daughter just began attending the University of Utah and also chooses not to come home because of distance. She loves the University though, and is studying Theater Arts. I would like to answer the question concerning the role of teachers in the classroom. Traditionally, teachers have been the resource of information, generally giving forth that information, and waiting for students to respond. My feeling is that teacher's have a newer role in the classroom in this new technology era. They must be the guides, the leaders to a newer way. Many older teachers are still afraid of computers, and have a very difficult time getting accustomed to using new ideas to help them. They believe that tradition is still the better way. Perhaps they are afraid to fail at new ways.

I have a question back for you...did you choose to train to become a teacher because of prestige (importance of status) or because of your love for children? Is teaching in China considered high prestige? Most teachers in American choose teaching because they want to help children become better people, and in showing them the best ways. Is that also true in China?

P

Message No. 907: [Branch from no. 905]
 posted by [SCNU Student1] on Sun, Mar. 18, 2001, 06:00
 Subject: Re: introduction of a Chinese girl in SCNU

Hello Mrs. P!

Nickel, Online Learning Activities: Beginning an international collaboration

I'm pleased to hear from you and knew your daughter would be a teacher. I chose to train to become a teacher because of my love for children but not for prestige. Teaching in China is not considered high prestige. It is mostly because the smaller tuition fee that many poor students (is the word "poor" equal to the phrase "of humble origin?") choose the normal universities. Another reason for students to be interested in teaching is that the salary of a teacher is ensured, though it is not so high. When I fill in the form about which university would I select, my parents didn't agree with me very well. I insisted my idea because my teachers' influence. They are all learned and respectable people and I hope to devote my life to education as they had been doing.

I have always argued that a computer or even the internet can not do as good as a teacher can do in cultivating the children. However, if the internet is able to give students enough knowledge, which way should a teacher choose to take effect on his students' minds? Chatting with them through internet to tell them how to be a real human being, do everything excellently to set examples for them whether inside or outside the classroom, or give the ethic lessons on internet? The way of attending compulsory courses of elementary schools or middle schools through internet is new to most Chinese pupils. Is there any successful practice in U.S.? thank you.

The rapidly expanding discussion soon became difficult to follow. WebCT's discussion tool, like most others, identifies the "Unread" messages for each logged-in participant, but the real problem was too many threads, too much going on. A sampling of the topics simultaneously addressed includes:

- Distance education via digital satellite broadcasting
- Computers and technology in the home
- Foreign language requirements
- Professor/student collegiality
- Online vs. face-to-face instruction
- Teaching styles
- Degree requirements
- Provisions for deaf, blind, and learning disabled
- Student jobs while attending school
- Training needs for multinational corporations in China
- Assessment and its effect on program of studies
- Opportunities for exploratory learning, and more

The Memo of Understanding envisioned, essentially, one big discussion and one big chat. It was obvious in a matter of days that a set of small groups was needed. People would then be able to focus on the lesser number of threads generated within their group, but also be free to browse other discussions if they wished to.

Message No. 906:
 posted by (**USU Instructor**) on Fri, Mar. 16, 2001
 Subject: A Summary of the discussion so far....

I have been thinking more about the Discussion and Chat, and I believe that we will be better off starting with smaller group sessions. All of us at once may be too many people for the beginning. So, I have made up four groups—with one SCNU student, and some Instructional Technology Masters students and Distance Learning Endorsement teachers in each one.

I have also set up four discussion forums here, named Group 1, Group 2 etc. I would like us all to move the discussions into the Group Forums.

The first Chats will be done in these smaller groups also. Please use your Group Discussion Forum to schedule your Chat.

You are, of course, free to Chat about anything. But there will be a specific Task to accomplish. It will involve learning about differences and similarities

in how we are trying to bring technology to the classroom in our countries. You will get more specific instructions about this soon.

International Text Chat

Using the small group discussion forums in *WebCT* to plan and schedule small group chats became a major project in itself. Synchronous events are difficult in the best of circumstances, even without 15-hour time differences and firewalls. With those and other complications, fostering real-time interaction was an extremely difficult undertaking.

The transcripts reveal a total of nine chats during a four-week period beginning in late March. Every one of them ended with the participants stating how much they had enjoyed the experience. However, these good feelings came at a cost – the time and effort in scheduling, and the feelings of frustration engendered when attempts to join a chat were not successful:

Message No. 967:
 posted by [**SCNU Student2**] on Fri, Mar. 23, 2001, 18:44
 Subject: Re: What's the matter?

I was rejected by the Text Chat Center again. Every Chat Room I wanted to enter told me the same message that the chat sever was not running. I feel unhappy. I will ask some specialists to help me deal with this. See you the next time!

Message No. 972: posted by [**SCNU Student3**] on Sun, Mar. 25
 Subject: SOS

I can not enter the chatting. The conversation text box tells me "connection is broken" Who can tell me how to do? It is time to begin .I am anxious. What about you all? Are you ok? Chatting?

Only two of the SCNU students were able to log onto a chat session, and they did so by using a dial-up connection in a private residence, rather than the computers at SCNU, which went through a proxy server. The SCNU server's port 3000 was open for connecting to WebCT, but Chat is typically run through a different port, which was not open. Once this was determined, efforts were made to correct the situation:

Message No. 991: [Branch from no. 990]
 posted by [SCNU Student2] on Tue, Mar. 27, 2001, 16:46
 Subject: Re: Information on the chat

It's of no surprise for me to find that I was rejected again this time. But I can't help feeling regret. I have told my tutor the problems we have met. And he said he would do his best to get the Port 4446 opened. That will be the best for we can only log on USU WebCT through the proxy and can not get one computer with an IP now. So I can do nothing for our text-chat now but asking for my tutor to give us good news as quickly as he can. I look forward the next time. I am anxious to think that you are having a hot discussion. How wistful I am to join you!

With prior testing and planning, perhaps the proxy server problem could have been addressed more successfully. As a pilot project, conceived and implemented on the fly, it is understandable that such technical difficulties would emerge. But understandability does not make the experience any less frustrating.

What, then, is the perceived benefit of a chat that justifies such a cost? In this case, coming as it did in the very early stages of a program, the attraction was clearly the chance to form personal relationships through real-time interaction. While a series of back-and-forth exchanges may play out over a number of days in an online discussion forum, in a chat the same exchange can be accomplished in minutes.

Each of the four groups had an assigned topic (e.g., Use of Collaborative Technologies, Internet Accessibility etc.), which they were to explore in a compare-and-contrast style. During the actual chats, which were moderated, some of the interaction focused on these topics, but not the majority of it. More than anything else, people shared information about themselves—their families, studies, careers, hopes, and dreams.

One of the four groups made the following points in their summary of the chat experience:

1. Getting to know people was the very best part
2. Everyone enjoyed the humor and the questions
3. Assigned subjects could not be discussed in depth because of time
4. The discussion forum is best for giving more thoughtful answers to questions

Despite the lack of depth, the chat transcripts show that a significant amount of information was transmitted, and not always of a purely personal nature. One chat focused on Internet access throughout the different levels of public education in the US and China, sharing observations about firewalls, censorship, costs and other barriers. In another, questions of private vs. public secondary schools in China and the US were considered.

The spy plane incident was not a major topic of the chats, but it was not ignored:

Main_USU_SCNU_Chat.

Time: Tue Apr 10 16:19:19 2001

S [**SCNU Student4**]>>I think we needn't see the political affairs would affect other things like that in academic domain./

T-MODERATOR [**DLE Student2**]>>I agree, I think that is government business and we are real people. M, what do you think?

M [**USU Student3**]>>I'm actually surprised that S would say that politics don't affect the academic situation in China. I don't know much about it, but I would've thought that the chinese government would see it differently./

T-MODERATOR [**DLE Student2**]>>How do you think the academic situation in China will be affected by this political issue?

S [**SCNU Student4**]>>If it has direct influence , then both sides of USU-SCNU students should hate each other. Is it right//

M [**USU Student3**]>>I don't mean to say that it seems one side would hate the other. I only know the US system and don't think it will change, but I really don't know for china. Obviously./

Nickel, Online Learning Activities: Beginning an international collaboration

T-MODERATOR [**DLE Student2**]>>We are just people, and I have found in my travels, that people have a lot more in common than not in this world, they love their families, have a desire to be successful in life, and many many more things like that. It is the govt that fouls things up. D, what about you>?

D [**DLE Student3**]>>I think we are all in search of happiness as the Dali Lama says. We all want what makes us happy. This collaboration is good. I was very impressed w/the SCNU student interest and genuine kindness.

T-MODERATOR [**DLE Student2**]>>I too am impressed with the collaboration and the kindness. I think it is good to talk.

S [**SCNU Student4**]>>The people are always searching for happiness, but what the governments search for is only "success'./

D [**DLE Student3**]>>Or Power?/

T-MODERATOR [**DLE Student2**]>>or Power!//

The "Depolarizer" Activity: An online game

Depolarizer is an email-based game developed by Sivasailam Thiagarajan, an innovative online educator commonly known as "Thiagi." The purpose of the game is to share opinions on a controversial topic, think about how others may view the topic, and gain a greater understanding of other perspectives by role-playing an assigned position. At his website, Thiagi (1999) provides a ready-to-use template – all that is required is to select a topic.

On Monday, April 2, the last of the planned activities in the USU-SCNU Collaboration was launched, just as the spy plane incident began to emerge as a major diplomatic confrontation between the two nations. The email-based Depolarizer game consists of multiple rounds designed to exercise a range of different cognitive skills. It lasted for almost three weeks, while anti-American protests raged in China and President Bush sought the return of the crew and the aircraft without appearing to give in to Chinese demands for a formal apology.

As details of the international incident were taking shape, the Utah and SCNU participants were also receiving the following instructions:

There are Five Rounds to this game

This is the First Round:

THE TOPIC

Active collaboration between many Chinese students and American students in K-12 and Higher Education within the next five years

THE RATING SCALE

1. Extremely pessimistic
2. Highly pessimistic
3. Pessimistic
4. Slightly pessimistic
5. Neutral
6. Slightly optimistic
7. Optimistic
8. Highly optimistic
9. Extremely optimistic

THE TASK

Reply to this email and send me the number that indicates your personal position on the rating scale. Please add several statements explaining why you feel that way. I will know your rating and your explanation, but no one else will. I will not save the replies in a way that links them back to you.

DEADLINE

Reply to me by Midnight, Thursday, April 5, 2001

WHAT'S NEXT

I will email instructions for Round Two at 12:01 Friday, April 6

THANKS EVERYBODY

Things don't always go as expected in first-time projects like this, but I am so glad to see that everyone is staying enthusiastic and doing their best. Thanks again.

Round Two involved prediction – the task was to estimate the average score from everyone who submitted a position in Round One. It is an exercise, which causes individuals to focus on how they think they differ from the norm. Once again, a brief explanation for the predicted mean score was required. This round had a winner. The person whose prediction came closest to the actual mean value was announced, and awarded a token prize of USU merchandise.

Next came the role-playing. On the topic of active collaboration between Chinese and American students, everyone was assigned a position – either Extremely Pessimistic or Extremely Optimistic – and asked to write three or more brief statements supporting that position. This was a very liberating activity. People were able to make strong statements without fear of attribution – they were just playing a role.

The written pieces submitted in Round Three were organized into an alternating series of Pro and Con arguments and emailed back to all participants. In Round Four, the initial question was posed again, after the experience of Rounds Two and Three as well as reading the full set of “Extreme” comments. Everyone was asked to indicate his or her current position on the one to nine scale. Round Five, the last round, was a reconsideration of the group's attitude, accomplished by predicting the new group Mean.

Although there are similarities between this exercise and the traditional Delphi research technique, there are also important differences. The purpose for which Delphi was developed was to determine consensus; that is, to formulate a “best prediction” based on an iterative process involving a substantial community of experts. According to Witkin and Altschuld (1995):

During the iterative process, the needs assessor ascertains the degree to which individual respondents agree or disagree with the results from the entire panel, item-by-item, as well as their reasons for disagreement. Respondents consider, review, and rate ideas over an extended time period . . . (p. 194).

Thus, Delphi uses community as an instrument for achieving accuracy. Depolarizer has no such objective – it uses community instead to help individual participants focus on their own beliefs through a variety of distinctly different activities. The expected outcome of a Delphi procedure is a more accurate understanding of some important aspect of the future. The expected outcome of Thiagi's Depolarizer game is a deeper understanding by the participants of their own thoughts and feelings about some important aspect of the present or the future.

Did Depolarizer change anyone's perspective? Since no effort was made to impose a true experimental research design on the Depolarizer game, it is impossible to make causal inferences. Furthermore, the spy plane incident probably qualifies as the epitome of what Cambell and Stanley (1966) labeled as an "history" effect, threatening the external validity of research results as an influential outside event not anticipated by the research plan.

Nevertheless, since it was an inherently data-oriented activity, it is a simple matter to summarize the game with some descriptive statistics. The results of the four rounds in which participants submitted numbers, broken down by the sub-groups in the collaboration, were as follows:

Table 1. Depolarizer results

	One		Two		Four		Five	
	<u>Position</u>	<u>Prediction</u>	<u>Position</u>	<u>Prediction</u>	<u>Position</u>	<u>Prediction</u>	<u>Position</u>	<u>Prediction</u>
SCNU Students (n=5)	5.50	6.42	5.50	5.50	5.50	5.50	5.50	5.50
USU On-Campus Students	5.17	5.06	5.75	5.75	5.75	5.75	5.75	5.70
Distance Learning Teachers	<u>4.89</u>	<u>4.91</u>	<u>5.50</u>	<u>5.50</u>	<u>5.50</u>	<u>5.50</u>	<u>5.50</u>	<u>5.64</u>
Total	5.30	5.75	5.69	5.69	5.69	5.69	5.69	5.67
Range								
Low	2.00	3.30	3.00	3.00	3.00	3.00	3.00	4.00
High	9.00	7.85	7.00	7.00	7.00	7.00	7.00	6.68
Median	6.00	6.00	6.00	6.00	6.00	6.00	6.00	5.73
Mode	3.00	7.00	6.00	6.00	6.00	6.00	6.00	5.50
Males	5.73	5.97	5.67	5.67	5.67	5.67	5.67	5.85
Females	5.00	5.61	5.71	5.71	5.71	5.71	5.71	5.60
Largest Difference (Mean - Personal)		+ 2.79						- 2.66

Discussion

The results show a slight depolarization, as well as an overall increase in optimism. The highs and lows came closer. The gap between personal positions and predicted norms was almost eliminated.

The sub-group, which showed the greatest change in personal position (Round One – Round Four), was Females with a 14 percent increase in optimism. At first Females were less optimistic than males. By Round Four, the situation was reversed.

It is also striking that in Rounds One and Two, overall optimism was highest among the students (Chinese, then Americans) and lowest among the in-service teachers. During the experience, the DL Teachers made 12 percent increase in optimism, narrowing the gap considerably.

Finally, a brief review of the statements submitted in support of positions and predictions testify powerfully to the high degree of subjectivity involved in interpreting personal communications. The following excerpts are drawn from the Round Five submissions, illustrating clearly that

different individuals can experience the same input in very different ways:

I found the optimistic position statements quite persuasive and I think the group may react the same way, thus the average should move toward the more optimistic scores ...

Realistically I feel this is still a pessimistic endeavor because of several of the barriers mentioned ...

I was more inclined to be more optimistic after reading the more personal responses. I think everyone else will feel more optimistic ...

The negative arguments were somewhat stronger than the positive ones...

The optimistic student comments seemed more believable and made more sense. Although some of the barriers were valid arguments, I disagreed with a lot of the pessimistic comments

Conclusions

The first step in the USU-SCNU Collaboration featured relatively brief experiments with a varied set of activities – synchronous and asynchronous, moderated and un-moderated, one group and small sub-groups. There was much to learn from the successful aspects, and even more from the parts that did not work well.

In terms of a smoothly flowing activity in which participation was consistently high, the Depolarizer game was the most successful. This suggests that very tightly moderated activities composed of a series of small, assignable steps should be designed and utilized in future phases of the collaboration. As an asynchronous experience, the game was more engaging than the discussion.

The small group discussions never really had a chance to develop as a vehicle for deeper and more thoughtful interaction. As soon as the groups were established, they became chat-scheduling places, rather than true discussion forums. In the next iteration, the small groups should be in place from the outset, with a reasonable amount of time allotted for a shared project, such as reading and critiquing articles together.

Chats will always present more complications, as a real-time activity. They should not be allowed to become too much of a preoccupation, as they were during this phase. Alternative chat options should be investigated, such as ICQ or Instant Messenger services. Once the technical hurdles are overcome, they should be used on an occasional basis, perhaps with a pre-set schedule, to strengthen the human connections.

Finally, it is worth noting that cultural differences produced no discernable difficulties. The problems flowed from lack of experience in the appropriate instructional designs for the specific situation, and from technical limitations. During a period of time spiked with high emotions and nationalism, the participants in the USU-SCNU Collaboration communicated clearly and let their personalities show. The eagerness to make contact was apparent, and can be seen in the sometimes-lengthy excerpts included in this article.

Exploring the effect of participation in a diverse online community on the learning process will be the unifying theme behind the future research agenda. After a second semester (Fall, 2001) of similarly exploratory text-based interaction, plans have been made to extend the collaboration and to focus on the unique research opportunities that are presented. In specific, three areas have been identified for future activities:

1. A regularly scheduled series of videoconferences: Faculty and graduate students from USU and SCNU will make presentations as part of a regularly scheduled series, using a tested system

operating at a negligible cost on the public Internet. Design elements involved in each event will be systematically evaluated by the all participants, with comparisons between Chinese and American perspectives being a feature of the analysis.

2. Discussion forums linked to the videoconference topics: An active on-going discussion provides the basis for experimenting with formats (List vs. Web-based), with moderator behavior, and with the linkage to a live event – always through the two different lenses.

3. Support for joint research and co-authoring: Working relationships among SCNU and USU faculty and students will be encouraged, particularly combined presentations and research activities.

Research will be both qualitative and quantitative. The different research traditions, or “different ways of knowing,” can complement each other very effectively in the broad new territory the collaboration enables. Is diversity an asset, and if so, how, and in what ways? How can technology be used most effectively to create diverse learning communities?

In the initial phase, the differences were felt to be an asset. In even the most tentative international online learning community, this important concept becomes very obvious simply from the increased levels of participation. It is a valuable lesson to be learned from a collaboration of this sort.

One of the Masters students from Utah State University expressed the inherent power of a diverse group of participants in these words:

I think it is the cultural differences that people are interested in and want to learn about. I see this as a motivator instead of an inhibitor.

Online learning communities can lead the way in modeling formats and activities that are strengthened by diversity. It might be what the world needs most.

References

Campbell, D. T., and Stanley, J.C. (1966). *Experimental and quasi-experimental designs for research*. Boston, MA.: Houghton-Mifflin.

Thiagarajan, S. (1999). Depolarizer: How to conduct this email game. Retrieved November 13, 2001 from: <http://www.thiagi.com/email-depolarizer.html>

Witkin, B. R., and Altschuld, J.W. (1995). *Planning and Conducting Needs Assessments: A practical guide*. Thousand Oaks, CA.: SAGE Publications.



Book Review - African Youth on the Information Highway: Participation and Leadership in Community Development

Editors: Osita Ogbu and Paschal Mihyo

Ottawa: International Development Research Centre (IDRC) 2000.

xviii + 110 pp. (Paperback)

ISBN: 0-88936-914-3

Reviewed by: **Richard Siaciwena**, Director of Distance Education, University of Zambia

Since the 1970s, most African countries have been experiencing serious socio-economic problems. These include the general underdevelopment of rural areas with its attendant economic gap between urban and rural centres; high poverty levels, (both urban and rural); high population growth rates that inevitably exert excessive pressure on the education and health systems; inadequate education and health services, intolerably high illiteracy rates, and high incidence of disease. Other problems include youth unemployment attributable to, among other factors, declining employment opportunities for young people and, more recently, the HIV/AIDS pandemic.

The declining economies and the concomitant shrinking formal labour markets mean that high proportions of the active labour force are engaged in the informal sector. In some countries of Sub-Saharan Africa, the informal sector accounts for up to 80 per cent of gross domestic product. This phenomenon has contributed to the development of enterprise and entrepreneurship training programmes aimed at equipping young people with the necessary attitudes, knowledge and skills to participate more productively in the informal labour market.

It is in this context that the above-mentioned book has been reviewed. It is a product of a workshop on the proposed Youth Leadership Program for Information and Communication Technologies and Community Development in Africa (ALPID), supported by the Eastern and Southern African regional office of the International Development Research Centre (IDRC), in Nairobi, Kenya.

The ALPID project, designed for implementation as a sub-theme of the Accra Initiative of the IDRC, was launched in 1996 as an international effort to empower communities in Sub-Saharan Africa to apply ICTs in their socio-economic development programmes. It aims to promote equitable, sustainable and self-directed development in disadvantaged and rural communities in Sub-Saharan Africa.

The book has six chapters and opens with an informative foreword by the IDRC Regional Director for Eastern and Southern Africa. It is followed by a detailed and focused executive summary, which gives an overview of the whole project

and summaries the key issues addressed by the workshop and its recommendations.

Chapter 1 gives a detailed description of the ALPID program, including its underlying principles, specific objectives, justification, and critical areas and needs in community development. This chapter also identifies priority areas for intervention (health, small and medium-sized enterprises, and land use and environmental management). ALPID's target countries, its target group, how the program will be executed, training strategies, program activities and conditions for program sustainability are also part of Chapter 1.

The technical feasibility of implementing ALPID, which, among other things, examines the information age and global trends, connectivity and alternative technologies, policy and regulatory constraints are discussed in Chapter 2. This chapter also discusses information technology in East Africa, intervention programs to disseminate trade information, and application of ICTs among the key areas.

Chapter 3 focuses on the implementation of ALPID in Kenya in terms of availability of skilled youth labour for ALPID, requisite technical and social skills, the nature and relevance of the social structures, and appropriate dissemination strategies. Equally important, this chapter outlines adult learning methods and identifies key stakeholders in the youth to adult transfer of knowledge program, and offers a brief but useful discussion on coordination modalities.

In its discussion of the challenges and possibilities in implementing ALPID in Uganda, Chapter 4 describes the ICT infrastructure development and prospects and the status of information systems in that country. This chapter also describes a hypothetical coordination centre in East Africa, to emphasize the importance of coordination, assessment and evaluation mechanisms.

Chapter 5 is short and titled: "Electronic Networking in Uganda: Building Local Support Capacity Through Youth Volunteers." It describes the East Africa Help Desk, a project supported by USAID, intended to help build the capacity of networks of East African countries. Its activities include provision of technical, management and information training and on going support.

Conclusions and Recommendations on the implementation of ALPID in East Africa constitute Chapter 6, which is essentially an outline of the implementation plans suggested by the workshop participants.

The main chapters are well researched and written in plain language, which make the book interesting to read. The book is a useful companion to those who are interested in youth development studies and those involved or interested in the provision of education to rural and disadvantaged communities. It shows the potential of information and telecommunication technologies in increasing access to education for rural communities in Africa.

The book is important in many respects. First, as noted in its foreword, it shows IDRC's greater involvement in the application of ICT in community development. Second, it signifies welcome changes in the strategies for involving the youth in socio-economic development especially in rural areas. Third, the book shows the potential of ICT in the education of rural communities, even in countries whose ICT infrastructure is comparatively underdeveloped. Fourth, the ALPID program provides a model for developing similar programs not only in African countries, but also in other geographical regions experiencing similar socio-economic problems.

Fifth, it is evident from the list of authors that there is expertise in Africa which can be utilised for the information revolution to transform the developing countries as it has done in industrialised nations. Lastly, the areas targeted for intervention are critical to the socio-economic development of African countries.

However, there are a few concerns one can raise about the book. It would have been good to have a chapter on Nigeria, which is among the initial target countries for the ALPID program. This would have offered useful comparisons between East Africa and West Africa, albeit in a small way.

Similarly, some readers would probably wish that the book were located in a broader and general context of ICT application in rural communities in Africa (e.g., telecentres/Community Learning Centres) one of the most interesting ones being the Nakaseke Multipurpose Community Telecentre in Uganda. An overview of such case studies could have offered useful background regarding ICT and its contribution to socio-economic development in comparatively weak economies. Second, while acknowledging the potential role of university graduates in implementing the program, the role of less educated youth could have been made more explicit. The ICT based community learning centres in Zambia show that even illiterates and less educated young people are resourceful and can be used to transfer knowledge.

These concerns, notwithstanding, the book is an invaluable contribution to the application of ICT in community development and the active involvement of young people in this area. It is a book one would be proud to have on one's bookshelf.

Citation Format

(April, 2002) Book Review - African Youth on the Information Highway: Participation and Leadership in Community Development. *International Review of Research in Open and Distance Learning*: Volume 3: Issue 3. <http://www.icaap.org/iuicode?149.3.1.x>

Book Review - Supporting Students in Open and Distance Learning

Author: Ormond Simpson
Kogan Page, London
186 pp. (Paperback)
ISBN 0-7494-3082-6

Reviewed by: **Ramesh C. Sharma**, Indira Gandhi National Open University, India

The Open and Distance Learning (ODL) system has come a long way, emerging as an acceptable mode of extending the outreach of educational opportunities globally, ranging from China with the world's largest population to Tuvalu with a population of only 11,000. In terms of geographic area, Sharma (1997) reported that ODL institutions are operating in countries large and small, the largest being Russia, to Israel, one of the smallest. In terms of population, Costa Rica boasts of one of the smallest populations served by ODL, whereas China's ODL system undoubtedly serves the largest. Owing to the diverse nature of demographic variables in terms of placement, job, socio-economic conditions, open university students often find it inconvenient to be physically present in a classroom setting for face-to-face instruction at stipulated times and places. However, to help overcome barriers of time and space, students studying using the distance mode, nonetheless require periodic guidance as well as counseling on academic and non-academic matters. In addition to print materials, students also require administrative, academic and library support services. Quite simply, effective student support helps to increase student retention (Brindley, 1985; Hara and Kling, 1999) and is clearly an indicator of success for any educational institution.

The central theme of Simpson's book *Supporting Students in Open and Distance Learning* is student support. But the book's author feels that this area did not get its fair due as compared to other dimensions of the ODL system, such as theory, pedagogy, management, organizations, technology, economics and assessment. Backed with more than 25 years in the area of ODL (such as leading UK's Open University Center for Educational Guidance and Student Support), the author presents his ideas and research on supporting students socially and in face-to-face settings; delivering support through technology or at a distance; staff or learning-skills development; and helping student retention. Put simply, Simpson's book provides practical advice for practitioners of ODL to help them develop viable tutor/counselor relationship building skills, as well as insights on how to effectively manage academic or non-academic support, retention and student outcomes. Supplementing the knowledge imparted through his book, Simpson suggests extra resources in the form of books, websites, newsgroups, and journals that all deal with the same theme, student support.

Organized in fourteen chapters, this book covers a broad range of topics, including working definitions of student support, delivery mechanisms, and staff development. Chapter 1 gives readers an idea of some structural models of ODL and definitions of academic and non-academic support. The next chapter provides a background on student support and deals with the practical, theoretical, and moral rationale for the central role of student support in any ODL system. This chapter also offers insights on how to identify a student who is not ready for ODL, and accordingly what sort of support they may require. The third and fourth chapters discuss non-academic and academic supports respectively. In Chapter 3, that author explores various forms of advising activities such as informing, commending, and exploring, then goes on to discuss a variety of skills and personal qualities that a student support adviser should ideally possess. Rogers (1951) suggested that the personal qualities of warmth, empathy, acceptance and openness are of great help. The author further opines that developing listening, selecting and process skills, help to boost and facilitate dialogue between the student and their supporter. Such other forms of non-academic support as assessment (pre-and in-course), advocacy, actions for providing support, and agitation (e.g., for change institutional policy) are also covered in this chapter.

The fourth chapter elaborates on tutorial activities as a form of academic support. Tutorial activities may be initiated by defining the territory of study (the course syllabus), to enriching students' learning experiences by encouraging them to study further and to seek extra knowledge. This chapter also describes various tutor styles, which may range from *didactic* (formal lecture, explaining and authoritarian) to *facilitative* (student oriented and democratic).

The next few chapters deal with delivery of support to students using such means as written instructions, telephone, face-to-face meetings, audio-visual media, and computers and mixed media. The fifth chapter examines the logistics of providing support at a distance through written media (letters, problem-solving pages in magazines, and leaflets), communication via telephone, and audio-visual media, etc. In this context, letters can be used for specific one-to-one communication or they can be in the form of a standard address on a given issue or subject. Leaflets, that are less expensive to produce and distribute, can create a permanency of record and express a given message as a straightforward text without demanding any specific responses from students. Leaflets may also be used for self-assessment texts that encourage students to interact with the media – i.e., by filling out a questionnaire, reading experiential texts, and offering insights of specific nature.

Various advantages and disadvantages of phone support (one-to-one or audio-conference) are also discussed. Chapter 5 provides further information on video-phone calling and voicemail systems, and discusses the ways they can be effective in providing student support. The next chapter is devoted to providing support using the computer. Daily software and hardware are becoming more powerful,

and when coupled with dropping costs, computer technology has now become an inherent component of student support mechanisms. More and more institutions are providing content via the Internet to students scattered around the globe. This chapter takes into consideration issues of access, content quality, and effectiveness of using computers. Discussed in the light of the different modes of computer usage, student support issues consist of online email support, Web-based support, and offline support using media such as CD-ROMs, etc. However, the author offers a word of caution: “What will such new developments do for students?” “Will it help them overcome isolation?” Clearly these are words of caution that make us ponder the potential pitfalls of ODL as a system.

Face-to-face student support, being the most visible, versatile, rich (and often manifest in high job satisfaction amongst support staff), receives special attention within ODL system. Chapter 7 provides a detailed examination of face-to-face student support. Beginning with clarification of the difference of face-to-face support in ODL and other educational settings, this chapter proceeds to by analyze the ways in which face-to-face support can be delivered: one-to-one or in groups, in both academic and non-academic contexts. The author then supports his view by providing some examples and concludes with examples of how to evaluate the effectiveness of different media, and what particular kinds of support may be useful to a student.

After discussing how support may be delivered through various media, in Chapter 8, the author examines issues related to student support outside the institution. The author contends that such outside support can be economical, cost effective, and that many students often give more weight to outside support than to internal support. He also notes that ODL institutions may also influence outside support structures such as students’ families, friends, partners, employers, or fellow students studying at the same institution. Clearly these outside support structures have their own influence on student outcomes.

Chapter 9 explains how students can be helped to develop learning skills either individually or in face-to-face groups; what kind of pro-active support can be provided at various stages of course delivery (e.g., early or later pre-course stage, course-start stage, before or after the first assignment, mid-course stage, pre- and post-exam stages, etc.). Activities related to development of reading and writing skills are also explained in this chapter. Development activities for group learning may be scheduled both within a face-to-face session and within a tutorial program.

I read with much interest the next two chapters. Chapter 10, which deals with support for different students (educationally disadvantaged, physically challenged, students with mental health difficulties, prison inmates, older students, and students in other counties), captured my attention immediately because “Special Education” has been a subject, I have taught to my post-graduate M.Ed. students. This chapter brings to light crucial issues of how to extend

support effectively to differently placed (disadvantaged) students. Chapter 11, which focuses on “Student Support and Retention,” likewise caught my attention. One month prior to reviewing this book, I presented a similarly themed paper: “Student Retention in Open and Distance Learning System” at the 15th annual Asian Association of Open Universities Conference held in New Delhi on 21-23 February 2002 and organized by the Indira Gandhi National Open University. In this chapter, the author has outlined the general principles of retention that address such questions as: What students to attract and retain? What students are at-risk? What are the probable reasons and stages where students are more likely to dropout? The author suggests measures for retention activities and covers various aspects related to recruitment (getting new students onboard), retaining (keeping the present lot), and reclamation (getting students who bailed-out back onboard). This chapter concludes with different case studies that illustrate some research input and applicable solutions to the issues under investigation.

Theory and practical application – in any discipline or area of research – always goes hand in hand. Theory forms a sound base upon which to situate practical application, which, in turn, paves the way to outcomes that either reinforces or advances theory. Chapter 12 deals with two basic theories of counseling underlying student support: humanistic or person-centered counseling and behaviouristic counseling. It concludes with a discussion of the ODL theories underlying student support, and observes ODL vis-à-vis conventional education in terms of its “substituteness” and comparative ratings.

The next chapter examines another important aspect of ODL, namely structure, quality and staff development in student support. In this chapter, the author examines two basic types of ODL organizations (campus-based and distance teaching). Examined on the basis of which kind of student support is provided, institutions can be centralized (i.e., all course production, support or assessment performed from one location) or localized (i.e., course production and administration are centralized, but student support is localized). Structurally the organization can be hierarchical (under a line management) or horizontal (team oriented). It discusses how quality in ODL be appraised, and how quality standards can be established (e.g., through student charters, response mechanisms to student complaints, etc.). Finally, theoretical and practical approaches surrounding staff development are presented and explained through the use of case studies.

In the last chapter “Epilogue – the Future of Student Support in ODL,” the author draws a picture of how the world of ODL will look in the future, discussing various developments in student support using computers, the Internet, phone services, etc. The author concludes by emphasizing the centrality of a cost-effective way of retaining students and of a successful student support system, two central elements that humanize ODL systems.

One feature that I liked and would especially like to mention is the clarity and

direct approach the author took in presenting his subject matter. As soon as you turn over the contents page, the story begins. There is no waste of valuable resources (i.e., paper) in the form of routine acknowledgements, the preface, etc., which in some of books I have read, seem to go on for several pages. Instead, the author has maintained his direct communication style throughout the chapters. In sum, the book addresses various academic and non-academic issues and is thus useful for tutors/counselors, administrators, teachers, and to all those who are involved in student support.

References

- Brindley, J.E. (1985). "Completion and Attrition in Distance Education: The Learner's perspective." Paper presented at the International Council for Distance Education 13th Annual World Conference 'Flexible designs for Learning'. Melbourne, Australia. August 13-20.
- Hara, Noriko and Rob Kling. "Students' Frustrations with a Web-Based Distance Education Course." *First Monday* 4 (12) December 1999 [Online] Retrieved March 27, 2002 at: http://www.firstmonday.dk/issues/issue4_12/hara/index.html.
- Rogers, C. (1951). *Client Centred Therapy*, Houghton Mifflin, New York.
- Sharma, R. C. (1997). *Distance Education in Global Perspectives*, University News, 35 (46), p. 12.

Citation Format

(April, 2002) Book Review - Supporting Students in Open and Distance Learning.
International Review of Research in Open and Distance Learning: Volume 3: Issue 3.
<http://www.icaap.org/iuicode?149.3.1.x>

Book Review - Keeping Students in Higher Education: Successful Practices and Strategies for Retention

Authors: David Moxley, Anwar Najor-Durack and Cecille Dumbrigue

London: Kogan Page, 2001.

240 pp. (Paperback)

ISBN: 0-74943-088-5

Reviewed by: **Susan Tresman**, Open University, UK. Visiting Professor, Open Learning University of Witwatersrand, Johannesburg, South Africa

I agree entirely with the authors' notion of student retention that permeates this book, namely that: "Retention is not merely keeping students in higher education. It is also about helping each student develop as a successful student, navigating some of the most important years of adult life." However, this important idea is contained among a somewhat bewildering array of ideas on the complex topic of retention in the higher education sector.

The authors recognise, quite appropriately, that there is considerable variation in retention practices and strategies. Hence, they are not keen to be overly prescriptive in the perspectives they offer. To this end, a number of route maps are offered to assist readers in navigating their way through comprehensive and diverse content.

Five vignettes offer a "flavour of student situations" that encompass six specific aims ranging from an outline of a basic approach to keeping student in higher education, through expanding readers' understanding of specific aspects of student retention development programmes. In sum, these vignettes are designed to help readers implement their own institutional retention efforts.

Macro and micro considerations of student retention are covered in four major thematic sections and addressed in twelve chapters. The four major themes are: the challenge of retention, institutional issues, course-based issues, and finally individual student based issues. Each of the twelve chapters opens with a list of main points indexing what follows.

Various tools are offered that provide a useful structure to access and relate to the book's content. However, the plethora of organisational pathways made it difficult to map the content. In particular, the opening and lengthy vignette seemed inappropriate to what followed. I found it generally difficult to relate the main points of each chapter to its contents; it was not easy to see the connecting threads between the many ideas put forward. However, there are some good nuggets of practice and some innovative modelling. The "Pathway to Retention" section in Chapter 1, for example, helpfully encapsulates the

challenge of retention and provides readers with a useful model applicable to various types of higher education institutions.

Chapter 3 and Chapter 6 in Part Two are also useful and more accessible. Chapter 6 stresses the vital significance of proactive support in enhancing student retention and provides a powerful illustration of academic maturity and retention risk.

In contrast, the language and content of Chapter 4 that addresses the concepts of retention assets of higher education institutions and their communities, is more difficult to penetrate.

In Part Three, five dimensions of retention programmes were again difficult to navigate and rationalise in terms of the pattern of ideas and how they were related. By virtue of it being a composite of several programmes operating in the USA, the exemplar retention programme in Part Four was rather complicated.

Given my own grounding in retention gained in the UK over the last three years, I found myself asking repeatedly why the content, which was in places innovative and thought provoking, was so difficult to follow, integrate and synthesise. Yet, the story that these authors have written about is undoubtedly one of the most important aspects of higher education today, especially as we strive to achieve an agenda of wider student access and participation.

In conclusion, readers who dip into this volume will garner some important ideas and practices. But this is not a readily coordinated story. Put simply, an attempt to index the contents according to the range of route maps offered may well lead to readers being side-tracked from the key issues of locating strategies to enhance student retention, such as assisting students to becoming successful learners able meet their study aspirations.

Citation Format

(April, 2002) Book Review - Keeping Students in Higher Education: Successful Practices and Strategies for Retention . *International Review of Research in Open and Distance Learning*: Volume 3: Issue 3. <http://www.icaap.org/iuicode?149.3.1.x>

April - 2003

Technical Evaluations Report

6. Chat and Instant Messaging Systems

Jennifer Stein, Debbie Garber and Jon Baggaley

MDE Programme

Centre for Distance Education

Athabasca University - Canada's Open University

Abstract

Text-based conferencing can be both asynchronous (i.e., participants log into the conference at separate times), and synchronous (i.e., interaction takes place in real time). It is thus subject to the same wide variation as the online audio- and video-conferencing methods (see the earlier Reports in this series). Synchronous text-based approaches (e.g., online chat groups and instant messaging systems) are highly popular among online users generally owing to their ability to bring together special-interest groups from around the world without cost. In distance education (DE), however, synchronous chat methods are less widely used, owing in part to the problems of arranging for working adults in different time zones to join a discussion group simultaneously. Instant text messaging is more popular among DE users in view of the choice it provides between responding to a message immediately (synchronous communication) or after a delay (asynchronous). The different synchronous and asynchronous approaches are likely to become more widely used in parallel with one another, as they are integrated in individual product packages.

The following comparison stresses the chat and instant messaging features of six integrated conferencing products.

Trials of Free Products

1. *AOL Messenger* provides a full set of chat and instant messaging features, with numerous options for customizing the log-in settings and look-and-feel, chat, privacy of groups, alerts, and file transfer (without virus checker). As with *Yahoo Messenger*, multiple persons can chat through the “buddies list,” which allows audio communication. More options are available in the audio feature (mute, pause, disconnect, meters, hands-free) than with *Yahoo Messenger*, though the clarity is similar. Text messages can be archived by copying and pasting from the chat window only. Webcam integration is not available. *AOL Messenger* is popular with the general online public, and is well supported. It would be an appropriate choice for a DE student, even though it lacks a few of the features found in other products.

2. *Excite*. In addition to the chat function, this service provides a valuable “web tour” or feature (allowing participants to control other users’ browsers in leading them to a series of web addresses: i.e., “co-browsing”). *Excite* is generally easy to use, provides a standard text area for messages, and features audio communication. Otherwise, the product does not include enough of the other basic features important to DE students for it to be recommended as an appropriate chat tool for DE class work. It contains limited start-up options and minimal means of controlling

simultaneous users. Participants can send and receive files during a session, but cannot archive the text chats.

3. **MSN Messenger** provides some basic chat features, and features audio communication. It is generally easy to use and provides a standard text area for messages. Otherwise, it features too few of the capabilities that are important to educational users for its chat tools to be recommended for DE class work. It contains limited start-up options and minimal user control of participants. Users cannot send and receive files nor archive chats.

4. **Sonork** is designed for use by work-groups on an intranet, but is easily adaptable to the Internet. It provides a basic set of chat features, a range of login status options, and the ability to track the use of multiple chat rooms. It includes features that might be valuable for general users (e.g., a calendar and 'to do' reminders), but it does not include many of the useful DE features such as audio and archiving. Installation is more cumbersome than with other instant messaging tools. *Sonork* is easy to use once installed but its chat area is cumbersome and may be difficult for new users to master.

5. **Tourbar**. [At time of publication, this product appears to be no longer available. We have retained our evaluation of it in this report, however, owing to the unique potential of "co-browsing" in DE (see Excite above), and as a reminder to identify an alternative product.] *Tourbar* was a specialty "co-browsing" tool – potentially valuable for DE students and instructors wishing to lead each other on web site "excursions." The user was able to program solo "web tours," group tours, or become a tour guide ('Master Surfer'). A chat window was available for use in conjunction with a web tour or separately. *Tourbar* did not have enough features to be recommended as a primary chat or instant messaging tool.

6. **Yahoo Messenger**. As with *AOL Messenger*, this service provides a full set of chat/ instant messaging features, with numerous options for customising the start-up and login appearances (more than with AOL). It features chat privacy, file transfer, and alerts. Multiple users can chat through the conferencing feature; and a range of capabilities is included for inviting, controlling, and blocking chat participants. Other features useful to DE students include file transfer (with virus checker), archiving, and webcam integration. A basic audio feature is included, although its only variable setting is a hands-free mode. *Yahoo Messenger* is the only tool reviewed in this category to date with a built-in archiving feature (optional setting). This tool would be an appropriate choice for DE students.

Conclusions

The chat/instant messaging products with the highest ratings in our comparisons to date are *AOL Messenger* and *Yahoo Messenger*. Each has a wide range of features, while *Yahoo Messenger* has a possible advantage in terms of the number of features. As the synchronous and asynchronous functions of online conferencing methods merge within individual software packages, it becomes increasingly difficult to select the ideal product for specific DE functions. A product may have a good synchronous audio feature but a mediocre messaging facility – or vice versa. In addition, new products continually emerge, and old ones disappear. In selecting products as the standards for DE delivery, it is often preferable to identify good stand-alone applications that can be used in parallel with one another. This approach allows educators to replace individual products if needed, without causing serious inconvenience to students. Over time, it is likely that conferencing products with multiple integrated functions will become less popular, in the same

*Belyk & Feist, Technical Evaluation Report 7:
Software Evaluation Criteria and Terminology*

way as the integrated “tape-slide” machines of the 1970s fell out of favour because of their relative cumbersomeness and inconvenience.

The [next report](#) in this series will discuss software evaluation criteria and terminology.

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: cde.athabascau.ca/softeval/. Italicised product names in this report can be assumed to be registered trademarks.

JPB. Series Editor, Technical Notes



April - 2003

Technical Evaluations Report

7. Software Evaluation Criteria and Terminology

Diane Belyk and David Feist

MDE Programme

Centre for Distance Education

Athabasca University – Canada's Open University

Abstract

This report discusses issues of software selection and terminology, highlighting terms that are useful in evaluation studies. A framework for the evaluation of educational software is presented. Links are cited at the end of this article to the *American Society for Training & Development* (ASTD), and *CNET Network's* glossaries of terminology relating to online collaborative methods.

Product Selection Criteria

Building effective online learning environments requires a change in the perception of knowledge and the roles and tools of learners, teachers, support staff and administrators. The task of selecting appropriate tools to facilitate online learning is complicated by the sheer volume of product choices and funding constraints. Ideally, product selection should be based on rigorous investigation and evaluation of the ability of each product to meet criteria specific to the learning needs and objectives of its users. A series of categories and criteria is suggested for the evaluation of online collaborative tools in the development, delivery, and administration online learning (ASTD, 2001).

1. Cost (institutional and user):

- System requirements namely open platform, platform-specific, server purchased vs. hosted.
- Bandwidth (modem, cable, ADSL, T-1, etc.)
- License fees (scaled per user)
- User software/ hardware (webcam, etc.)
- Download/ installation

2. Complexity (user focus):

- Technical support (user manual; frequently asked questions; online and offline help)
- Collaborative tools (Asynchronous – email, conferencing; Synchronous – chat, audio-conferencing, whiteboard, virtual networking; Isosynchronous – desktop video-conferencing)
- Usability (seamless technology; degree of intuitiveness; ease of use; navigation; consistency; stability; functionality)

3. Control:

- Secured access (password protection; encryption; firewall)
- Personalization
- Privacy (protection by parental/ teacher controls; banner/ pop-up ads)

4. Clarity:

- Resolution, sound, size, layout, etc.

5. Common Technical Framework (CTF) - an ASTD classification scheme:

- Interoperability
- Advanced Distributed Learning (ADL) partnership (protocol or standards: IEEE, ISO, SCORM, etc.)
- Scalability
- Platform
- Integration
- File-sharing

6. Features:

- Learner tools (search; references/ URL links; glossary; spell-checking; formatting; attachments; upload/download files; self-assessment; grades)
- Teacher tools (content development; student assessment; student management; student tracking)
- Administrator tools (registration; report generation)

Weighing Product Selection Factors

Before selecting specific online educational products, educators and institutions should consider each of the above factors, balancing as far as possible the merits of specific products against the general features of the educational programme and system. The selection of a specific product requires attention to:

- Software reliability
- Availability of technical support by the institution to the users
- Availability of support by the software supplier to the institution and the users
- Cost to the institution – e.g., is full ownership (i.e., local server support) available for the software?
- Cost and/or burden to the learner

Four specific questions arising in product selection are as follows.

1. If the success of the course or programme depends heavily on the software tool, can the institution guarantee the software's longevity? In the current state of development of online

collaborative software, this is possibly the most difficult variable for an institution to control. For all of its efforts to identify appropriate and reliable software sources, the institution should identify back-up products through evaluation studies such as those reported in this series.

2. Is the institution prepared to provide the necessary support for the selected tools? [**N.B.** Athabasca University's Centre for Distance Education (source of the current report series) provides online support mechanisms for its selected collaborative tools, in addition to the more general support provided by the University's main helpdesk (Baggaley, 2002).]

3. Will learners derive sufficient learning benefits despite the costs imposed by the collaborative technologies? During the current, relatively early state of development of these technologies, evaluation studies such as reported in this series generate valuable discussion among teachers and students about the technologies' merits and demerits in specific situations.

4. Will instructors use the technology to transform or direct learning? (Garrison, Anderson, & Archer, 2000; Sherry & Wilson, 1997; Shotsberger, 1997). The instructors' will and ability to use the technologies are at least as essential to their successful adoption in online learning as the selection of the product itself.

The [next report](#) in this series will compare the merits of fully-featured and stand-alone conferencing product.

References

ASTD (2002). *Online Glossary*. Retrieved on April 25, 2002 from.

<http://www.learningcircuits.org/glossary.html>

Baggaley, J. P. (2002). *Personal communication* (Athabasca University, Alberta).

CNET Glossary (2002). *Online Glossary*. Retrieved on April 25, 2002.

<http://www.cnet.com/Resources/Info/Glossary/>

Garrison, D. R., Anderson, T., and Archer W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 11(2), 1 – 14.

Sherry L., and Wilson, B. (1997). Transformative communication as a stimulus to Web innovation. In B. H. Khan (Ed.) *Web-based instruction*. Englewood Cliffs, NJ.: Educational Technology Publications. 67 – 73.

Shotsberger, P. G. (1997). Emerging roles for instructors and learners in the Web-based instruction classroom. In B. H. Khan (Ed.) *Web-based instruction*. Englewood Cliffs, NJ: Educational Technology Publications. 101 – 106.

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: cde.athabascau.ca/softeval/. Italicised product names in this report can be assumed to be registered trademarks.

*Belyk & Feist, Technical Evaluation Report 7:
Software Evaluation Criteria and Terminology*

JPB. Series Editor, Technical Notes



April - 2003

Technical Evaluations Report

8. Fully Featured vs. Lean-and-Mean?

Jon Baggaley

Centre for Distance Education

Athabasca University - Canada's Open University

Abstract

With students in an “Educational Conferencing” graduate course, a comparison was conducted between the merits of an online collaborative package containing a wide range of features and alternative conferencing software containing only a threaded discussion and search feature only. The responses of fourteen students taking part in the study revealed a clear preference for the simpler approach. The study has implications for the selection of software tools in the design of online course environments and for the re-design of the product ratings system used in the current series of evaluation studies.

Introduction

The collaborative tools reviewed in this series of evaluation studies vary greatly in their complexity. Whereas some contain a comprehensive range of tools (text and multimedia conferencing, file and image transfer, polling, etc.), others include one or two basic features on a “stand-alone” basis. Many of the reviews published in these reports to date have given high marks to the products with the most features. However, the teachers who supervise these evaluation studies have noted previously that a majority of students prefers simpler methods in their distance education (DE) studies, and tends to resist adoption of more complex methods.

In January-February 2002, Athabasca University’s Centre for Distance Education (CDE) conducted a comparative study of two contrasting conferencing products with the graduate students in its “Educational Conferencing” course (MDDE661):

1. **Anyboard** is a text-conferencing package that had received the highest ratings in an earlier study for its comprehensive range of features (automated file and image transfer, spell-check, polling, etc.: see Report IV); and
2. **WWWBoard** is simple software, restricted to a threaded discussion and search tool. This software has been used by the CDE’s graduate programme for the past three years, within a customised online framework of course materials and stand-alone Internet audio techniques. To justify the students’ discussion of this familiar product, two format changes were made: the addition of a pagination feature, which divides the discussion into separate pages after every ten discussion threads; and a change in page colour.

Method

*Baggaley, Technical Evaluation Report 8:
Fully Featured vs. Lean-and-Mean?*

In review of the two products during the CDE's 'Educational Conferencing' course, 16 students were invited to take part in the discussion, and 14 did so. Their edited contributions are presented below.

Product One: The *Anyboard* product was introduced first, in the second week of the course.

- JB, Instructor: A good way to appreciate the wide range of possibilities in computer-mediated conferencing is to compare various approaches. We invite you to place some test postings on this board, and to try out some of its features. All areas of the board are open to you, although for the sake of easy navigation, some of them could be removed if they do not have any particular use in distance education.
- Student A: This CMC seems to have some advantages over simple discussion board. For one there is the chat. As well I like how you can link URL's. I will try linking to my homepage.
- Student B: Yes, this board is quick and easy. Your page is crystal clear and I like the options – very easy to use.
- Student C: The format for adding links and attachments is good. I tried switching to browser view but it wouldn't load.
- Student B: I'm trying out a few features. One is to send an attachment which seems easy enough (can they be sent in any format? (doc, pdf, etc.)
- Student D: Does this board seem a little cluttered or is it just me? Perhaps those of you who are familiar with this program can tell me what the best pops and whistles are.
- Student E: It is not your imagination. This product's screen is VERY cluttered.
- Student F: Just trying this out, but like others, I find it unnecessarily cluttered, and can't quite understand why the rate link is there. What am I to rate??
- Student G: What is the rate link about? Is it to rate the message?
- Student I: I thought I'd try out polling a question and see how it could be incorporated in a needs assessment. If anyone is interested, attached is the polling zip file (37Kb).
- Student G: I believe my polling file is to big. I will try again later with another one.
- Student J: Seems to be an extensive package, but the menu bar is a little hard to follow.
- Student E: It is nice to see that you can add an image to the posting without having to use HTML.
- Student A: My first attempt to attach a picture failed due to size restrictions. The photo was 407 Kb so that explains why it failed. Took some time but this picture should be around 100 kb.

Product Two. Two weeks after the first discussion, the second product (*WWWBoard*) was introduced.

- JB, Instructor: Welcome now to this modified version of the usual MDDE discussion board. We invite you to place some test postings on the board, commenting on some of its features.
- Student E: Okay; this is not as cluttered as the other format.
- Student K: What a relief to move back to a screen format that clearly differentiates action area (i.e., post reply, link, search, etc.) from postings area. I found the initial view of *Anyboard* quite confusing (even intimidating!). Student/smiley faces are nice, but there's way too much happening on the screen for a new user. Maybe a bit of graphic design would help?
- Student F: Yes, this is cleaner and clearer.

*Baggaley, Technical Evaluation Report 8:
Fully Featured vs. Lean-and-Mean?*

- Student C: I like the easy link to external sites.
- Student K: I think the search function is very handy – saves having to note name, posting date or even print material that you want to refer to from time to time.
- Student L: This is a much more ‘friendly’ screen to read. I find it a bit irritating though that you can’t collapse the response postings into the first post of each main thread.
- Student E: I don’t see enough here to make me change. However, we’ll see if the 10-thread page feature is a help or a hindrance.
- Student D: This format looks like the old *WebCT* bulletin board. It always worked well, but I like the multiple page access. Very convenient and clear. Generally a nice board but can one create more than one link per message??

Summary Discussion

Three weeks after the second discussion, a final discussion was introduced.

- JB, Instructor: Now that you have each experienced a wide array of these tools, which in general do you prefer – an online conference containing many optional features, or one with relatively few features? Your opinions on this topic will be useful in the context of this particular course, and in decisions about future web site policy.
- Student E: I am moving to the position of favouring “lean and mean.” I accomplish what I need with stand-alone tools: email and file attachments; ftp; Internet audio; course discussion boards. I use what I need when I need it, without having to load some cumbersome or screen-crowding thing.
- Student G: I prefer an online conference containing relatively few features. I get technically frustrated very easily, so for me the simpler and easier the better. Features I feel should be included in an online conference are email, file transfer and a method to replay the discussion to a group or to an individual. I found the first method (*Anyboard*) to have a distracting font – too large and colorful. The page layout was also not as organized as the second method (*WWWBoard*).
- Student H: I like email for asynchronous, private messaging, but prefer a conference board when trying to follow a discussion by a group. I like the simplicity of *WWWBoard*. Black text on a white background is easy to read and provides a no-nonsense, get down to business arena for discussion. I am not a fan of screen colors and clutter when it is the text that is important. I remember using another method, which was bizarre! The text was brown on a mustard yellow background. I couldn’t even read it. Many of us complained, and the colors were changed, along with the structuring of the threads, which was also difficult to follow.
- Student C: The beauty of an exercise such as this is the ability to “play with the toys,” trying out a variety of programs that may or may not add to the distance learning experience. The danger of this playing around can be going for the “latest” techno tools for the sake of using something neat when a simpler approach would work as well or even better. If I were teaching Math or Art online, a whiteboard and synchronous conferencing tool would definitely be a plus (in my opinion) whereas, if my students and I are critiquing a literature text, a simple, single function conferencing board would be more than adequate for the job.
- Student F: I agree with your points re: the beauty and the danger of these techno-toys/tools. I also agree about matching the tools to the task. I must add that, for me, an audio component adds a richness I hadn’t expected. I suppose it is partly because most of my day (work and general living) is spent in a second language environment, so being

*Baggaley, Technical Evaluation Report 8:
Fully Featured vs. Lean-and-Mean?*

- able to discuss the points/ content in my mother tongue is worth having to rearrange my schedule to be online when everyone else is. So in looking for a package, I'd start with one that offered an asynchronous text tool with synchronous audio capabilities.
- Student M: I personally prefer the lean and mean approach to technology, a simple program.
 - Student N: I prefer the fully featured approach where one has the ability to use a variety of tools depending upon the task being performed. I would like the option of using audio and video with someone who is capable of using this feature and then using only text with another person who may have bandwidth problems that cause audio and video conferencing to be an annoyance. I also prefer to use software that comes with the operating system. As a training consultant, I do not like to recommend software that is relatively little used by individuals just because I like the program. I am more likely to do my best by using software that is already in use by the majority of my clients.
 - Student I: I prefer the flexibility of a full-featured system. I tend to opt for utilities from established vendors – higher likelihood that they will maintain their service and that a significant portion of my clients will have heard of it. More and more, I find value in a system that also tracks users' logins, time online and what activities they were engaged in. This feature normally only comes with a fully featured system.

Analysis of Comments

The students were classified in terms of whether or not their response(s) clearly favoured one of the two methods above the other. Eight of the 14 respondents indicated a clear preference for the “lean and mean” method, while two preferred the more complex method. The addition of less clear responses raises this comparison to nine versus four. The students who prefer the more complex method tend to be those with a particular fascination for the online technologies in their own right, and who enjoy exploring them. The majority of students, however, indicates that they lack the time and patience to explore software that contains a wide range of features, which they may not need for the specific online activities at hand.

Conclusions

The conclusions of this product comparison coincide with those of similar software preference studies conducted in the same Athabasca University graduate programme during the past three years. The current study has two main implications. Firstly, it confirms that distance education students do not wish to use fully featured online collaborative tools when simple tools will suffice. Secondly, it suggests that the ratings system used in this particular series of evaluation reports to date should be modified so that it no longer includes an “overall rating” by which each software product is directly compared with others. Since reviewers' overall ratings are usually based on the comprehensiveness of a product, they may not reflect the main purpose of these evaluations at all – i.e., to identify online approaches that serve distance education students' needs simply and directly, and are popular with them because they do so. The greater virtue of such studies lies in the extent to which they generate a comparative checklist of product features for the benefit of those who know exactly which features they need for specific purposes.

Acknowledgements

*Baggaley, Technical Evaluation Report 8:
Fully Featured vs. Lean-and-Mean?*

To my colleague Dr. Patrick Fahy, co-designer and co-instructor of Athabasca University's graduate course on Educational Conferencing (MDDE661); and to the course's Winter 2002 students whose opinions made this report possible.

The [next report](#) in this series will review dual-platform collaborative software (PC and Mac).

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: cde.athabascau.ca/softeval/. Italicised product names in this report can be assumed to be registered trademarks.

JPB. Series Editor, Technical Notes



April - 2003

Technical Evaluations Report

9. Dual-Platform Products (PC and Mac)

David Feist and Diane Belyk

MDE Programme

Centre for Distance Education,

Athabasca University – Canada's Open University

Abstract

Most of the other reports in this series have featured collaborative tools that were designed for use on PC-compatible platforms, and tested by our evaluation team on these platforms exclusively. This report reviews four integrated software products ensuring “interoperability” between the two major computing systems, PC-compatible and Macintosh. The products are compared in terms of their different levels of interoperability and complexity, as defined by the *American Society for Training & Development* (ASTD).

Introduction

For distance education (DE) institutions that also maintain an open learning mandate, it is important to avoid creating barriers to learning, and to adopt online methods that can be used on as many computer platforms as possible. Although most DE students currently use a PC/Windows platform for their studies, there is a minority that still uses the Mac computer. This report compares three products that permit collaborative activity between both of these major computer platforms. The evaluation stresses two of the software evaluation criteria defined by the ASTD's Common Technical Framework (CTF): interoperability and complexity (see Report VII).

Dual-platform Evaluation Criteria

Interoperability is the ability of computer hardware and software components to work together effectively. A five point rating scale of the products' interoperability is used, interpreted from Poor to Excellent when two or more products are used simultaneously.

1. (POOR) Considerable loss of function, or signal degradation
2. Some loss of function or signal degradation
3. Moderate interference or degradation (e.g., audio still works well but video becomes slow and jerky)
4. Three products can be used simultaneously without loss of function, but users must take turns in using a product feature such as drawing on the whiteboard
5. (EXCELLENT) Three products can be used simultaneously by all users with no restrictions.

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

The products' interoperability has been evaluated using a Mac G3 with ADSL and a Mac G4, with a cable Internet connection.

Complexity includes the provision of adequate technical support, appropriate collaborative tools, and a high degree of usability. The products' web sites were also reviewed with respect to the clarity of their organization, instructions for installation and use, FAQ's, and administrator manuals. The products' help features and interface designs were examined to determine usability.

The evaluation's specific focus is on the student user; thus the teacher and administrator tools therefore are not reviewed.

Dual-Platform Products

1. *HorizonLive* is a full-featured integrated communication program accessed through a Java-enabled Web browser. The program can be used for presentation and tutoring purposes. It includes an audio-conferencing feature using the *HearMe* audio engine.

[**N.B.** The company that developed this feature no longer supports it.] Audio presentations use the *RealPlayer* streaming technology. Participants must first download and install the *RealPlayer* plug-in into their Web browser before they can hear the presenter. Video-conferencing is not supported, but one-way video presentations are supported through the use of the *RealPlayer* streaming technology.

Participants can also interact using *eBoard*, a set of whiteboard techniques. The instructor can upload and copy and paste images onto the whiteboard. All participants can use whiteboard tools to mark up the uploaded image. The instructor can upload application screens allowing participants to view and manipulate their content. Completed whiteboard screens can be archived on the server for future reference, but cannot be saved direct to a participant's computer. Instructors can allow participants, either individually or collectively, to draw on the whiteboard, manipulate application content, and participate in audio conferencing. Participants can indicate their wish to interact with application content by clicking on a "raised hand" icon. Instructors can poll participants with yes/no, multiple choice, and short-answer questions. Poll results can be quickly displayed to all participants in raw form, or as pie charts and bar graphs.

HorizonLive functioned well in our test, though the annual license fee of \$19,000 (US and CDN at par) may be prohibitive for many educational institutions.

2. *iVisit* is currently a freeware audio/ video conferencing package. The client program is available for both the Mac and Windows platforms. Multiple video screen sizes are supported starting with 80 pixels by 60 pixels (postage stamp), 160 pixels by 120 pixels (default size), and 320 pixels by 160 pixels. Screen sizes greater than the default screen size suffer from degradation of resolution. Participants can contact each other directly through the use of IP addressing or through the use of a centralised server. Multiple participants accessing the centralised server see a thumbnail picture of the other participants in an easily managed guest list. This is especially useful when there are bandwidth constraints. Participants click on another participant's thumbnail picture to view their video screen at the default size. If the participant has a full duplex audio card, the participant can choose between full-time two-way audio conferencing, referred to as "squelch" mode, or the default "push-to-talk" mode. Instructors can ban participants for a pre-

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

programmed length of time. *iVisit* also offers a simple text-chat tool and an audio/video archive tool.

Technical support for *iVisit* is available through email 1, website tour, and a frequently asked questions (FAQ) user guide. The user instructions in the latter are not completely clear, and the FAQs assume some familiarity with the first version of the product. The help features within the product are limited and would be improved by including an explanation of the icon functions. Usability could be improved by moving the connection commands (to rooms, and to an IP address) to the same menu directory.

The current minimal requirements for using *iVisit* on PC-compatibles are: Windows95/ 98 /2000/ ME or NT; Pentium 90; and 16 mb RAM. The audio/video features require a 100 percent *SoundBlaster* 16-compatible sound card, and any Video-for-Windows compatible input device. Mac users require a *PowerPC* processor (system 7.5 or greater); 6 mb RAM; *QuickTime* v2.1 or greater; *Sound Manager* v3.1 or greater; and *Open Transport* v1.1 or greater. The audio/video features require a *QuickTime*-compatible digitizer and microphone.

3. GroupBoard is a basic whiteboard application, accessed through a Java-enabled Web browser. The product's demo version supports five simultaneous participants. Displays created on the whiteboard can be saved to the server for future reference, but cannot be saved directly to the participant's computers. Instructors can preload images to be used during a presentation, and can ban participants for pre-programmed lengths of time; they can also manage participants' access to the drawing tools. The product offers two levels of password-protected security: the administrative access level, which allows the instructor to control participant interactions, and the participant level which does not allow participants to control other participants' access. *GroupBoard* also contains a simple text-chat tool.

The freeware version of *GroupBoard* exposes users to advertising, which is difficult to switch off even with the use of ad-blocking software. The hosted full version (\$59 US/ year for 15 users) is ad-free. A copy of the server software for operation on a local server is available at \$500.00 US, including three independent, simultaneous white boards, each with a maximum of 15 users. The technical support for the product includes clearly written online user and administrator manuals, and concise sets of user and administrator FAQs.

4. VNC is a freeware server and client set of applications for Mac, Windows, and Unix platforms, providing remote screen viewing and remote computer control. Participants must know the IP address of the host server in order to connect to it, and access the server screen through either the client application or a Java-enabled Web browser. Our tests suggest that the use of a Web browser involves a noticeable lag for participant screen "refreshes" by comparison with the client application. *VNC* currently allows for a maximum of eight simultaneous participants each viewing the server screen. Two levels of password-protected access are provided, the first level permitting participants to view the server screen, though not to interact with server-based program content as in a Word document. The second access level gives the user complete control of the server computer, and to move between, for example, the open application and the server's system folder. An additional intermediate level of security would be useful to expand *VNC*'s education value. This access level would allow participants to interact with program content on active windows only, while being prevented from leaving the active application.

Before the *VNC* server application is launched, the screen of the server should be set to a screen size no bigger than 800 x 600 pixels, to allow most participants to view the server screen without

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

having to scroll horizontally and vertically. Macintosh users of *VNC* need a Mac 7.1 operating system or greater, and Open Transport 1.1.1 or later. *VNC* provides considerable online documentation, mainly designed for administrators, though the product is easy to download and use by students. The FAQ support is well organized and appropriate for educational users.

[**N.B.** Following their separate tests, *Groupboard* and *VNC* were each tested with *iVisit* running simultaneously as a background application. When *iVisit* was loaded in the background, its video refresh rate was reduced from a “stand-alone” rate of 10 to 12 frames per second, to a rate of between three and five frames per second. There was no noticeable loss in audio quality.]

Conclusions

Faced with the high annual license fee of *HorizonLive*, educational users may prefer to combine the audio/video conferencing tools of *iVisit* with: (a) the whiteboard application of *GroupBoard* and/or; (b) the remote viewing tools of *VNC*. Our tests indicate that these product pairings give adequate simultaneous levels of performance. The special merit of these software combinations is their compatibility with both PC-compatible and Macintosh platforms.

The [next report](#) in this series will discuss the evaluation of vendor-supplied information.

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: cde.athabasca.ca/softeval/. Italicised product names in this report can be assumed to be registered trademarks.

JPB. Series Editor, Technical Notes



April - 2003

Technical Evaluations Report

10. Evaluating Vendor Supplied Information

Patrick J. Fahy

Centre for Distance Education,
Athabasca University

Abstract

Distance educators are not normally equipped by their training or experience for the complex task of evaluating technologies. One of the areas of potential disadvantage is in interpreting information provided by vendors themselves, and in relating effectively with sales, marketing and technical representatives. An objective and thorough product evaluation requires that information be selected, and sometimes generated, to aid the process. Vendors may agree to provide additional information, including direct experience with their products, if evaluators know what to ask for and what to expect from vendors.

Introduction

In evaluating potential distance delivery and support technologies, researchers may have occasion to use information provided by vendors. Historically, education in general and distance education particularly have been considered niche markets by most major technology developers and providers; however, as educational technology investments in general increase, and as distance training in the private sector grows, more vendor resources are being directed to promotion of distance learning applications of all kinds.

Vendor promotion of and publicity about their products, services and achievements creates both challenges and opportunities for distance educators attempting to make intelligent technology choices. Because distance educators are not usually experienced purchasers of technologically complex and expensive systems, and because they usually are not aware of common practices in marketing and sales in these fields, some caveats and an exploration of possible strategies for gaining reliable information to inform the selection process may be helpful. While providing some cautions, this advice might also give individuals who lack marketing or purchasing experience some understanding and some strategies, permitting them to interact on a more equal basis with professional sales and marketing people.

While evaluating the capability of the technology to meet the organization's needs and expectations, evaluation of software and hardware should also consider the readiness of the organization for adoption of the technology. Welsch (2002) reminds evaluators that innovations of all kinds encounter financial, structural and cultural challenges in any organization, and that an assessment must be made of the organization's readiness to change in order to successfully incorporate new technologies. The evaluator's task includes both looking at a technology's potential usefulness to the organization, and assessing the organization's readiness to adopt the

technology successfully. A mismatch between corporate readiness and the technology's demands as an innovation could be disastrous for an unprepared organization.

Assumptions and Strategies for Evaluators

A key assumption in the following discussion is that vendor-supplied information can be used effectively in evaluating a technology, if the potential purchaser understands in advance some facts, and, where strategically appropriate, engages in some timely activities.

1. Truth vs. the whole truth in vendor publications. While there should be no misinformation, vendor-supplied information is almost never complete. Vendors know they are not on the witness stand, and they therefore do not feel they have to tell the “whole truth.” (They may be following St. Paul’s insightful advice to the citizens of Corinth: “All things that are true for me may not be expedient.”)

- It is not reasonable to expect vendors to provide complete, objective information on their own products; the evaluator must seek comparative information and evaluative data (caveat emptor).
- The evaluator should also be prepared, if doubtful of any claims, to challenge vendors to prove them (see 2, 3, 4 and 6, below.)

2. Real vs. ideal performance reports. Similar to the above, information provided in marketing and sales publications commonly highlights only the strengths of the products and the company, usually in a non-technical sense, often in comparison with known weaknesses of the competition, and sometimes referring to performance under laboratory (rather than “real-world”) conditions of use.

- Marketing and sales information should be regarded with caution, even scepticism, until corroborated by independent testing.
- Objective technical information should be sought, to replace merely qualitative or comparative product descriptions.

3. Access to technical information. Related to the above point, evaluators should be able to access quality, objective information from a vendor, consulting, as necessary, appropriate internal and external expert sources. Technical specifications include credible engineering information describing the performance or requirements of the technology under controlled conditions.

- Technical specifications should reflect benchmark checks, or should be referenced to externally recognized standards, where applicable.
- The evolutionary history of specifications and performance of a product should be made available, so evaluators can see how the product’s functionality has evolved.
- “Next release,” or otherwise promised future features, should not be mentioned unless they actually exist, and may be evaluated in some form.

4. Reference-site information. Reference sites are customers of the vendor who know (and presumably are happy with) the product, and who are also regarded by the vendor as using the product intelligently, effectively and appropriately. Reference sites can be regarded as demonstrating the most effective potential outcomes likely achievable with the product.

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

- Evaluators should have access to a choice of reference sites. Vendors should assist potential purchasers in selecting reference sites to contact or visit.
- Reference sites who are partners of the vendor, who have a financial interest in the product, or who derive any financial reward from referrals should not be used without disclosure of these facts.
- After purchase, users of a product who provide the vendor with valuable feedback, especially feedback leading to product refinements or development of new products with commercial potential, should receive some benefit, especially if student, staff or faculty assistance contributed significantly to the enhancements. Evaluators should seek advantages for the organization when partnering with a vendor to improve the vendor's product.

5. Business facts. Information about the company itself, as a corporation, can sometimes show how well managed and accepted the company and its products are in its field. This information is usually only readily available on public companies, which by law must make public certain information about their business dealings. While information on public companies should be entirely accurate (federal regulations apply), the data may be difficult to interpret, and may also be incomplete.

- Company size and reputation may indicate corporate health, and ability to deliver ongoing product support and services. (Reference sites may be a better source of this information; see 4, above.)
- Despite the potential difficulties in acquiring and evaluating it, information about the size of a company, the location of its offices (potentially important for support considerations), its technical history, its pattern of growth (market share, product acceptance), and its product plans may be useful in assessing corporate health and "fit" with the potential purchaser's intentions.
- Quarterly and annual reports of public companies should be available for perusal.

6. The right to pilot-test. Because the acquisition of complex technologies, often unfamiliar in the organization, represents both a major investment and a high risk, the opportunity to pilot-test the product may be of value to some purchasers.

- Vendors should approve "no-obligation" pilot-tests, and assist the potential purchaser with orientation, installation and other associated tasks. Tests should be of sufficient length, should be conducted under conditions of experimental rigour, and should correspond well enough to actual conditions of use, that results are likely to reflect closely actual program performance. (No surprises should occur after purchase, for want of testing before.)
- An agreement about costs related to testing should be reached before the pilot commences; for ethical reasons, the vendor's direct costs should normally be borne by the potential purchaser, to assure impartiality in the evaluation.
- Use and publication of the results of pilot- or evaluative tests should be agreed upon in advance of any pilot-testing.

7. Price and support stability. Sales practices in relation to technologies often change as marketing opportunities and products evolve; in some companies, these may also change if sales representatives need to book revenue at the end of a quarter or a fiscal year. To potential

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

purchasers, frequent changes in product packaging or in sales strategies may lead to questions about the product or the company itself.

- Pricing should be quoted with no hidden or deferred costs, and should permit perpetual use by the purchaser of the version purchased, including any ongoing necessary product support. (Educational customers do not normally have resources for annual renewals of licenses, or mandatory upgrade fees.)
- No product should normally be “orphaned” by the vendor. While the product ages, it should continue to be fully supported, even if it is “obsolete” in relation to more current versions.
- If an older version of a product eventually becomes embarrassing to the company, or too expensive to support, the vendor should make an appropriate upgrade possible within the resources of the purchaser. (The principle is that the vendor incurs a moral responsibility to each educational purchaser to maintain product integrity so long as the user is satisfied with and is using the product.)

Conclusions

Vendors competing for business in the highly competitive and often financially lean, even distressed, distance education marketplace, provide product information of different kinds in a variety of forms. As well, the volume and intensity of these kinds of representations may be considerable: marketing and sales expenditures in relation to educational technologies, especially of software products, may comprise a major part of the cost of doing business, sometimes significantly in excess of the cost of the product itself. For example, in 2001, PLATO Learning Inc. reported that its costs for “selling, general and administrative expenses” had increased 30 percent, to 63 percent of revenue, up from 61 percent of revenue in 2000; in 2000, the increase had been 29 percent. Bearing in mind that PLATO is a mature company, with established products and customer based, and therefore less in need of core development and support expenditures, for the same two years “product development and customer support” comprised 11.3 percent and 12.4 percent of revenue, respectively.

Evaluators should know how to judiciously assess and use vendor-provided material, including knowing when to ask for more or different kinds of information. Gathering needed product and organizational data, generating new data where necessary, and helping colleagues see how the data relate to intended outcomes, are core tasks of the technology evaluation process in a training or educational environment. Because of the long-term organizational implications, the evaluation and selection process must generate an accurate and realistic description both of the technologies’ capabilities and of potential impacts on the organization. Vendors may legitimately help in this process if their role and contributions are properly managed by the evaluator.

References

PLATO Learning Inc. (2002). *2001 Annual Report*. Retrieved March 14, 2002, from:
www.plato.com

Welsch, E. (2002). *Cautious steps ahead*. *Online Learning* 6(1), 20 – 24.

*Fahy, Technical Evaluation Report 10:
Evaluating Vendor Supplied Information*

This series of software evaluation reports will continue with reviews of other online collaborative tools.

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: cde.athabasca.ca/softeval/. Italicised product names in this report can be assumed to be registered trademarks.

JPB. Series Editor, Technical Notes

