Distance Education: Must it be 'Out-of-Sight, Out-of-Mind' Education?

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Abstract

Distance educators, in theorising their practice, take as a starting point Michael Moore's (1989) typology of learning interactions: learner- teacher, learner-learner and learner-content. Some might accept the suggestion of Hillman, Willis and Gunawardena (1994) that we should also include learner-computer interactions in the typology, though we will argue that in most computer-mediated learning interactions the interface to the content, to their teachers, and to other students, should be as transparent to the learner as the ink on the page, the coating on the audiotape.

Both Moore (1992) and Farnes (1993) have identified the first generation of distance education as being characterised by single-media, correspondence education, and the second generation as being multimedia, inasmuch as packages of print-based learning materials might be supplemented by videotapes and audiotapes. These were essentially modes of delivery to independent learners; they provided for learner-content interaction in the main, for teacher-learner interaction occasionally, and learner-learner interaction rarely. Both Moore and Farnes envisage that in the next generation of distance education we might see students remote from each other and their teachers interacting with each other in computer-mediated learning environments, characterised by Farnes as the new 'networks of opportunity'.

Learner-learner interaction has always been a feature of Gippsland style distance education: use of study centres in outreach locations, weekend and residential schools and, more recently, audio-teleconferences. We will describe our use of NetFace, an electronic communications facility developed at Gippsland to facilitate learner-learner and teacher-learner interactions. By looking at the range of on-line teaching and learning strategies it has empowered us to explore with distance learners studying a number of subjects in humanities, business studies and applied science. We will examine whether or not there is still a place in networked learning for outreach locations, audioconferencing and Weekend Schools.

The session will present the theoretical underpinnings of our approach to online teaching and learning and inform the workshop activity we are proposing.

1. Introduction

How can you best teach a class that is not in a classroom, and that is made up of isolated students who can't see one another, or the teacher? They're 'out there', somewhere, learning by Distance Education. This question is attracting much attention, and the development of new communications technologies, particularly those involving computer conferencing systems, is changing the answers.

2. What is Distance Education?

Garrison and Shale (1987, p. 11) provide three criteria in an attempt to define Distance Education. They are:

1. distance education implies that the majority of educational communication between (among) teacher and student(s) occurs noncontiguously,

2. distance education must involve two-way communication between (among) teacher and student(s) for the purpose of facilitating and supporting the educational process,

3. distance education uses technology to mediate the necessary two-way communication.

The technology mentioned in the third criterion has not always been, and is still not necessarily, *electronic* technology. Nipper (1989) linked three models of distance education to the historical development of technologies such as effective printing techniques and railway transportation, multimedia teaching systems and the newer electronic communications technologies.

Nipper called his three models first, second and third *generations* of distance learning. He describes the first generation of distance education as correspondence teaching, where students received large amounts of written or printed material and communication between the student and the teacher was 'slow and sparse, and mostly restricted to the periods when the learners submit scheduled assignments' (p. 63). Second generation distance education marks the incorporation of radio and television broadcasts, audio and video cassettes and other such multimedia teaching devices, with printed materials to make up the students' 'content package'. Learner-teacher interaction includes not only feedback via marked assignments, but telephone conversations (initiated either by the student or the teacher) and some face-to-face contact in the form of weekend or residential schools.

Nipper's model of the third generation of distance education allows *two-way* communication *among* the students as well as *between* the students and the teacher. Such communication provides the opportunity for socialisation which is achieved in on-campus education in classes such as seminars and tutorials and outside the classroom in places such as the cafeteria. The 1995 On-line conference for the International Council of Distance Education (ICDE) broached the topic of interaction in education in the form of a debate titled: 'No Interaction, No Education'. Those 'speakers' agreeing with this statement pointed out that if the term 'education' is understood from a constructivist perspective, dialogue is necessary in order to permit the change in cognitive structure in the learner. The more dialogue, the more opportunity for learning. Even those opposing the statement, 'No Interaction, No Education' agreed that interaction was advantageous to learning, although they did not concede that it was necessary.

Moore (1989) proposes that there are three types of interaction that occur in distance education: learner-content interaction; learner-teacher interaction and learner-learner interaction. We feel that this typology sits comfortably within Nipper's three models of distance education, with the first generation model consisting largely of learner-content interaction, the second generation including more learner-teacher interaction and the third generation defined by the presence of all three forms of interaction.

Technology used in the first and second generations of distance education did not provide much opportunity for students to participate in learner-learner and learner-teacher interaction. It was too expensive or not flexible enough for the way in which distance education students are forced by their environments to learn. In addition, there is concern that the second generation has further encouraged the 'out of sight, out of mind' syndrome by using technology to provide comprehensive packages of learning material which are homogeneous and can be easily mass produced. While these products appear to enhance learner-content interaction, 'the use of packaged learning materials which define the objectives, content and desired outcomes of study...can lead all too easily to students who are passive consumers of the educational experience they are offered' (Rumble 1989 in Farnes 1993, p. 15).

Nipper identified computer mediated communication (CMC) as an appropriate method of achieving socialisation in an off-campus situation providing interaction in an asynchronous environment. Unlike any other technology, CMC allows students to participate in socialised learning at a place and time that is suitable to them. 'It was the pedagogical and social requirements derived from our conception of the learning process that led to the idea of implementing CMC services for distance education ... not the other way round.' (Nipper 1989, p. 66).

Six years ago, Garrison (1989), like Nipper, was heralding a new view of distance education, based on two-way communication between students and teachers and *amongst* students and teachers. Both Nipper and Garrison, as well as Farnes (1993), ascribe the potential for change to the availability of new technologies. In comparing the move to mass higher education with the industrialisation process, Farnes comments that 'technology... has a crucial influence on modes of production as well as on the organisational forms of education, particularly distance education' (p. 11).

3. The Gippsland Campus - Development of Learning by Distance Education

It is true that the rapid advances in communications technology, and in transport systems (to allow students to travel to study centres for some face-face interaction), have allowed the development of distance education from the first generation model to the second generation model. We believe that this is the model of distance education that has operated at the Gippsland campus of Monash University in the recent past. At Monash (Gippsland Campus) the Distance Education Centre has an efficient system of distributing study materials to students all over Australia, and beyond. There exists a dedicated team of liaison officers to facilitate, not only the mechanics of receiving and returning submitted assignments, but also the intricacies of finding accommodation and child-minding services for students attending on-campus sessions and handling any general inquiries that the external student may have. The distance education teachers are an experienced group of professionals (usually teaching on-campus classes as well) who provide individual and group telephone tutorials and make themselves available at weekend schools for general discussion and debate of the subject content or of the learning process.

However, attempts at encouraging communication *amongst* students (aside from when they are in attendance at weekend and residential schools) at Monash has consisted only of the provision of a list of fellow students, who have volunteered their phone numbers in order that a study network may be initiated by the students themselves.

4. Moving Towards the Third Generation

If we are to move towards Nipper's (1989) third generation of distance education, there is a need for more communication amongst our students, and for more two-way communication between teachers and students. That is, we must encourage communication and socialising between the students. This was always one of the results of, if not one of the primary reasons for, designing weekend or residential schools into a distance education course. Outreach locations such as Monash University's

South Gippsland Education Centre at Leongatha and Bairnsdale Study Centre provide another form of opportunity for students to meet face-to-face. Outreach locations are not a new idea in distance education. The University of Queensland had outreach locations in Townsville, Rockhampton and Ipswich from 1950 (Kitchen, 1985). However, the requirement for travel to a university campus or an outreach location is one which not all distance learners are willing, or able, to meet (for a variety of reasons—work, family, distance, time and expense).

Our experience as distance education teachers shows that attendance at voluntary face-to-face sessions are entirely unpredictable, varying depending on the students' ability or willingness to attend. Personal experience as distance education students indicates that some students base choices about subjects, courses and hence universities, on the attendance requirements, possibly indicating the significance of time and travel limitations in the lives of distance education students.

Teleconferencing reduces the need for students to travel to particular locations (although, as Garrison (1985) notes, teleconferencing is often organised in local centres, so some travel may be involved), but does require that students make themselves available to take part at a particular time. In short, as Nipper (1989) remarks: 'traditional measures [of group communication] such as telephone conferencing [are] insufficient and hard to manage' (p. 66). Other currently available technology, such as desktop videoconferencing, may also enable learner-teacher and learner-learner interaction but is not asynchronous and is not cost effective for students or universities at this point in time.

Many institutions are using interactive voice response (IVR or Voice mail) systems which allow asynchronous communication and the ability for lecturers to leave messages that all students may access. Although utilising the existing telecommunications technology and the verbal communication process, it can only be accessed serially, which would make use (for any other purpose than dissemination of administrative information) a difficult and time consuming process.

Computer conferencing systems provide asynchronous communication for groups of people. Electronic mail also provides asynchronous communication, and is discussed by Frost and Roberts (1990). Their study concludes that distance learners with access to electronic mail perceived greater access to their teacher (than no e-mail access) and more feedback from their teacher. Students were also able to communicate with classmates. Although electronic mail messages may be distributed to an entire class, electronic mail differs from electronic conferencing. Communication via electronic mail is generally one-to-one or one-to-many, while conferencing systems are structured so that discussions proceed among class members in a public 'space'. Such dialogues are preserved as files so that the 'thread' of a conversation may be traced by someone who enters the conversation at a later stage. This arrangement also releases each participant from the task of organising personal mail messages and folders which is a necessary task for those using e-mail on a daily basis. Finally,

> [t]here is an inherent time lag in broadcasting e-mail messages, sometimes measured in hours ... But in a conferencing system that resides at a central location, everyone reading a topic can be sure that they are seeing everything that has been written up to this very moment ...the only delay is the amount of time it takes you to type your response (Woolley 1995).

Farnes (1993) aligns the third generation of distance education with the post-Fordist model of industrialisation and characterises it by mixed mode and flexible delivery methods in general rather than use of any particular technology. 'Thus a post-Fordist mass higher and continuing education could involve what were traditional institutions teaching in mixed modes using open and distance learning, and a number of distance teaching institutions ... offering second and third generation distance education as part of a flexible network of national and international opportunities. The lead

medium in third generation distance education is networked computers but print and other resources remain important.' (Farnes 1993, p. 16).

5. The Virtual Gippsland Campus - Plans for the Future

A growing part of the Monash University campus at Gippsland, is NetFace: our 'virtual campus'. NetFace is a menu-driven program which allows electronic assignment submission, e-mail, conferencing, library services and Internet access. It has been described in some detail elsewhere (Wood, 1995). Students require access to a computer (PC 286 or better) and modem to connect to the University's network system in order to run NetFace. The system is aimed at the lowest common denominator by way of required equipment in order to allow maximum opportunity for student participation.

The conferencing facility of NetFace has been successfully used for all of Moore's (1989) three forms of communication in virtual 'classrooms'. These are individual conferences chaired by a faculty member. Classes from the Schools of Computing, Applied Science, Business, Humanities and Social Sciences are amongst those currently running as the virtual campus. There are also conference areas for extra-curricular activities: the Campus Chaplain runs a 'Virtual Chapel' and there exists a Philosophy Forum, a Business Club and a Club for science students, as well as 'places' such as 'The Union' and 'The Caff' simulating the real versions of on-campus venues.

It is through the use of electronic conferencing systems, such as that offered by NetFace, that we believe Nipper's (1989) third generation of distance education will come into being. Evans and King (1991) invite a shift in the current way of thinking about distance education which requires an acceptance of the need to promote communication and the thoughtful use of the newly emerging communications technologies.

We have learnt some lessons from our use of the NetFace system to date. Many of these lessons have been learned in staff development classes, where faculty members use NetFace as their students would, in order to understand how they can use it to aid their teaching.

6. Lessons Learned So Far

- In conducting on-line workshops for faculty members we have noticed that 'students' are sometimes resistant in approaching the technology. Nipper (1989) has also noted that computer-mediated communication presents difficulties for learners who are uncomfortable with computers, and unused to expressing themselves via the written word. We found it necessary to provide an incentive to encourage new users to begin to navigate around the system. Interaction with fellow learners was also initiated only when the course required the students to do so. Spontaneous communication followed once users were comfortable with the system, but generally students communicated only with people that they already knew, a luxury that 'real' distance education students do not have.

- A point of difficulty in involving distance education students in computer-mediated conferencing is the lack of access to even the most basic electronic communications technology that underlies conferencing systems such as NetFace. Plunkett (1995) quotes figures stating that only 32.6% of Australian homes have a PC and only 3.1% of Australian homes have Internet access (and therefore access to University networks). Only one of the authors of this paper (JW), (though we are all both studying and teaching by distance education) has a modem at home which allows her access to the University's network.

- Introduction of such a system appears to increase the cost of distance learning from both the student's and University's point of view in purchase of equipment and development of software. Nipper (1989) uses the phrase 'noisy learners' to describe the third generation of distance students. It may well be that the noisiest learners are those that cost the most to teach.

- An interesting lesson that we have learned relates to the reasons why faculty members attended a training session for NetFace which was mistakenly advertised as 'How to Teach Using the Internet'. Some attended in the belief that they would learn how to significantly reduce the time and effort spent communicating with students while others had been sent along to the course by department heads in order to learn how to cut costs in teaching. A number of faculty members understood that they would be learning how to publish their course notes on the World Wide Web, the rationale being that students can download and print the notes, therefore saving the University on printing costs. There appears to be a danger in this approach that distance education teachers placing their study material on the World Wide Web (or any other form of electronic publishing) will take us back to Nipper's first generation of distance education; another form of the correspondence course, using different technology. This danger invoked some discussion in the ICDE conference topic: 'Is the WWW ready for serious distance education?' Many distance education teachers felt that there was a glaring need to include more student-student and student-teacher interaction, possibly via the use of conferencing. The generally accepted conclusion was that the Web was not particularly designed for this purpose and the features are unlikely to be as comprehensive as other separate conferencing programs. 'Web-based conferencing is still quite young. The first examples appeared only about a year ago. On the whole, Web conferencing hasn't yet caught up with conferencing software for other platforms' (Woolley, 1995).

- Our observations resulting from the same training session showed that teachers are not only trying to deal with the technology but are being forced to come to terms with a true distance learning paradigm. The training involves role-playing by students in order to learn the system and this has had the effect of creating a clear awareness of the difficulties that distance education students might face. Until teachers using CMC can develop this awareness, it is possible that CMC will be under-utilised, misused or cause students many problems. The implementation of CMC as a regular teaching tool will also require a considerable investment of intellect in the construction of a new distance learning paradigm which teachers may have never thought about, let alone practised before. 'The role of academics [will] change again, becoming closer to the traditional role of academics in conventional universities, but with a subtle and important difference: they would be conference moderators and personal advisers, not lecturers and seminar leaders.' (Rumble 1989 in Farnes 1993, p. 17).

- The time taken to learn the NetFace system does not appear to be a significant obstruction to its widespread use. The time taken to use NetFace (or any CMC) on a regular basis for teaching is unknown until results of further research appear but current participants suspect that it could be a significantly higher time commitment than for on-campus teaching. If this is the case, the costs of providing distance education in this form could be significantly higher than the current second generation modes. This could make the suggestion of moving towards the third generation a radical and expensive one in an environment of reduced funding.

7. Conclusion

While we feel that the development of computer-mediated conferencing systems will result in Nipper's (1989) third generation model of distance education becoming a reality, we do feel that there is still a place for print and multimedia based learning material as well as for face-to-face meetings at outreach locations and at on-campus activities such as Open Days, Weekend Schools and Residential Schools. It appears that the real benefit of the third generation of distance education is in the flexibility

that students will have to choose methods of learning which suit their personalities and individual learning styles. There are many ways to engage students when we are not able to see one another. We can use new technologies, the postal system, the telephone—a whole host of methods. It is our belief that communication facilitates learning, and the more opportunity there is for communication, the more opportunity there is for learning.

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