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FACULTY DEVELOPMENT PROGRAMMES IN DISTANCE EDUCATION IN AMERICAN HIGHER EDUCATION

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The first part of this chapter reviews recent North American literature on teaching and learning in two-way interactive distance education systems and discusses the implications for faculty development programmes. The second part provides examples of distance education faculty development programmes in operation across the United States, what is common to these programmes and some of their unique features. Some of these programmes were developed by institutions which have been engaged in distance education for decades - for example, the Penn State University and the University of Wisconsin. Others represent institutions new to distance education, such as El Paso Community College. All reflect a move towards a learner-centred, active learning philosophy and away from a teacher-centred approach.

A review of the literature and the implications for faculty development

The literature review discussed in this chapter was published initially in Gunawardena and Zittle (1996), and focuses predominantly on papers published since Dillon and Walsh's (1992) comprehensive survey of distance teaching in *The American Journal of Distance Education*. Most of the papers examined provided descriptions or anecdotal evidence of teaching via two-way interactive systems. Very few of these papers provided empirical evidence of the effectiveness of specific teaching and learning strategies. The interactive distance learning systems covered in these papers included audioconferencing, audiographics, videoconferencing or instructional television (ITV) using transmission technologies such as satellite, Instructional Television Fixed Service (ITFS), microwave, fibre optics and compressed digital video or synchronous and asynchronous computer conferencing using a combination of E-mail, groupware, bulletin boards and resources on the Internet and World Wide Web (WWW).

Most US higher education distance teaching institutions are dual mode, primarily serving traditional on-campus students but also offering selected programmes to distance learners, extending the on-campus classroom by employing a combination of interactive technologies. In this model, faculty have to be capable of teaching to two types of audience: the on-campus students and the distance learners, and researchers point out that teaching in such a distance education environment may require skills not commonly found among higher education faculty (Beaudoin 1990; Thach and Murphy 1995). It is shown that instruction is most effective where faculty who engage in distance education can change their roles as well as their practices (Catchpole 1992; Gunawardena 1992). It is argued that the changes in teaching

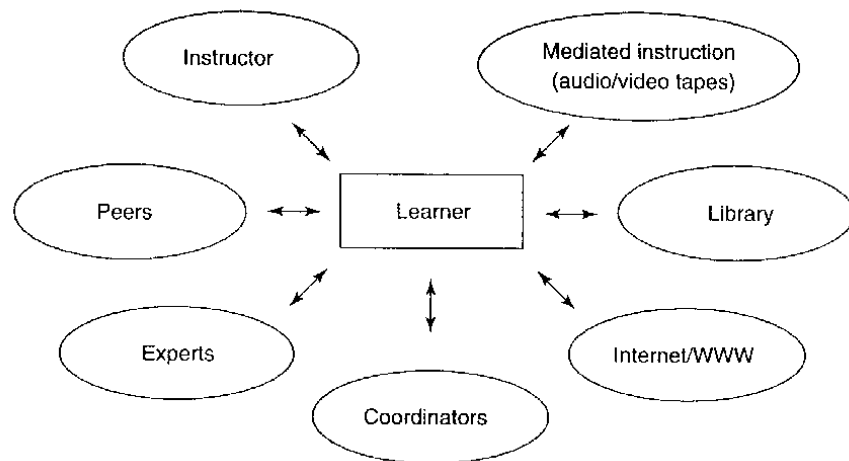
and newly assumed roles of faculty in distance education reflect a shift from a behaviourist approach to learning to one which is cognitive-constructivist (Garrison 1993).

This review of the literature identified four major teaching and learning issues that needed to be addressed in faculty development for teaching via interactive systems: learner-centred instruction; interaction; social presence; and collaborative learning. These issues are discussed below.

Learner-centred instruction

It is difficult to determine whether the shift to more learner-centred instruction has been driven by the technology or by instructors bringing such an orientation into the distance education context. There is evidence that, in some instances, technology has stimulated change in instructional practice (for example, Moore 1993), but there are also indications that the instructors have conceived, designed and delivered their courses from a learner-centred orientation (Worley 1993; Schmidt *et al.* 1994). To give but one example of the latter, a pilot programme designed to teach algebra to migrant students was conceived using a constructivist approach, and the evaluation indicated that a learner-centred course can effectively deliver difficult concepts such as algebra at a distance, even using such low-end technology as audioconferencing (Schmidt *et al.* 1994).

Gunawardena (1992) observes that instructional design must address the complex inter-relationships between the intended learning tasks, the media attributes and the learner's cognitive processes. Two-way interactive telecommunication systems provide opportunities to develop learner-controlled instructional systems that make frequent interaction mandatory for effective learning experiences. Describing her teaching experiences using an audiographics system, Gunawardena (*ibid.*) discusses the design of a learner-centred graduate course wherein the focus was on learner-initiated enquiry and exploration. The course assignments were designed to strike a balance between independent, interactive and interdependent activities. In such an approach (Figure 11.1), the learner was central to the learning process and in control of the learning experience.



The learners were connected to a variety of instructional resources, including other on- and off-campus learners, the library and databases available through the Internet, and the teacher. Each learner was constantly interacting with these various resources and receiving feedback. Gunawardena (1992) observed that in adapting to this mode of delivery, she had to learn to change her role from that of the teacher in front of the class to that of the facilitator at one with the participants. Her primary role was to guide and support the learning process by helping to link the learners to the other resources and providing sufficient support to empower the learner to exercise control over his or her learning experiences. In developing faculty for work with such a learner-centred instructional system, it is important to focus on the need to ensure that the human and non-human support systems are such as to provide such empowerment and obviate undue failure and attrition.

Interaction

In regard to 'interaction', two questions are of particular interest: what types and levels of interaction are essential for effective learning? And what does real-time and time-delayed interaction contribute to the learning process and outcomes? Moore (1989) makes distinction between three types of interaction: learner-content interaction; learner-instructor interaction, and learner-learner interaction. Kearsley (1996: 84) observes that 'interaction in distance learning needs to be differentiated according to content versus teacher versus Student, immediate versus delayed, and types of learners'. Fulford and Zhang (1993) found that the critical predictor of student satisfaction in the course that they studied was not the extent of personal interaction but the perception of overall interaction. If the students perceived that there was a high level of interaction in the course, they were satisfied - even if they did not or could not interact personally.

The literature stresses too the importance of planning for appropriate forms of interaction in distance education programmes. Interaction does not occur automatically or simply because the technology is capable of supporting interaction but, as Kearsley (1996: 88) notes, 'the idea that interaction must be explicitly designed in distance education courses seems a difficult concept for many instructors to accept and understand'. The University of Wisconsin's faculty guide, *Bridging the Distance: An Instructional Guide to Teleconferencing* (Monson 1978), provides some excellent examples of how to incorporate interactive instructional strategies into such distance education delivery.

Hillman *et al.* (1994) argue that Moore's (1989) three types of interaction do not account for all aspects of interaction in technology-mediated distance education. They point out that the new technology systems necessitate the conceptualisation of another form of interaction - learner-interface interaction. Instructors and learners have to learn to interact with the new high-technology devices and manipulate interfaces in order to be able to communicate with one another, and have to be at ease with the technology, but this Dimension is often overlooked in faculty and student induction.

Social presence

Dede (1989) observes that successful distance instruction depends on more than competence in classroom management strategies, knowledge of subject matter, pedagogical expertise, and

the ability to use technology. The capacity to create an intellectually and emotionally sustaining 'telepresence' and the capacity to build 'virtual communities' are also vital Attributes in the distance instructor. Telepresence or a social presence' is defined by Short *et al.* (1976: 65), as the 'degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships'. Social presence means that the remote instructor, whether 'on-screen' in the instructional television context or the computer conferencing context, is perceived to be a real person with a genuine interest in the distance learner's needs, interest and progress. This characteristic is variously described in terms of the on-screen instructor 'immediacy', 'closeness in space/time' and 'emotional closeness'. It also describes the degree to which a distance learner is able to feel that he or she can establish an on-going student-teacher relationship with the on-screen instructor.

Hackman and Walker's (1990) study provides evidence that 'teacher immediacy' contributes to student satisfaction and learning in an interactive television class. They argue that there are differences between telecommunications delivered instruction and traditional face-to face instruction, specifically in terms of the climate of 'social presence' created. Social presence techniques can be taught and faculty who teach using interactive systems need to be trained in these techniques.

Collaborative learning

Research indicates that collaborative group work can increase motivation, completion rates, student satisfaction and, depending on the number of students in the group, even performance (Wells 1990). However, until the advent of the newer communications technologies capable of facilitating interaction among groups for extended periods of time, it was difficult to arrange for collaborative learning by distance learners. Asynchronous computer-mediated communication (CMC) is an excellent medium for introducing various forms of group work into distance learning and many distance educators are now adopting this medium, using the resources available through the Internet and the Web, to design collaborative learning experiences based upon constructivist principles. McIsaac and Ralston (1996) describe the design of such a course using the Internet, the Web, First Class computer conferencing software, and audioconferencing facilities.

Jonassen (1994) discusses the implications of constructivism for instructional design, and observes that purposeful knowledge construction may be facilitated by learning environments which provide multiple representations of reality, focusing on knowledge construction and not knowledge reproduction, realworld case-based learning, fostering reflective practice, facilitating context- and content dependent knowledge construction, and supporting the collaborative construction of knowledge through social negotiation. Employing constructivist principles, CMC environments can be designed to provide multiple perspectives and real-world examples, encourage reflection, and support person-to-person and large and small-group discussion at a distance. Gunawardena *et al.* (1996) developed a constructivist interaction analysis model to analyse learning from an on-line debate which included five phases: sharing/comparing; dissonance; negotiation; testing tentative constructions; and statement/application of newly constructed knowledge.

Garrison notes that constructive learning environments do not reduce the instructor to a mere optional resource:

While the focus is on learning and the learner taking responsibility to construct meaning, this does not diminish the role of the teacher ... the teacher carries a heavy responsibility to structure content that provides a framework to connect and make sense of ideas and facts. The goal is not simply the assimilation of facts.

(Garrison 1993: 203)

This is only possible where the instructor has the innate capacity for, and/or has been trained to the point where he or she is comfortable with assuming many roles, among them those of moderator, mediator, modeller and motivator.

Common and unique elements of faculty development programmes across the United States

The four issues discussed above serve to show how fundamental and critical is the need to change instructors' roles and practices in the development and delivery of distance and open learning. The following section outlines the elements of faculty development which are common to many US dual-mode institutions and should form the foundation of any distance education faculty development programme, and then provides some specific examples of Programme provision.

Our survey of faculty development programmes across the United States covered the University of New Mexico, New Mexico State University, University of Utah, University of Maryland, Penn State University, University of Alaska, Indiana University, Oklahoma State University, Rochester Institute of Technology, El Paso Community College and the University of Idaho. It revealed the following common provisions:

- * Orientation to the use of technologies. Even though some technologies such as television or the Telephone are familiar household items, institutions hold that their utilisation in educational contexts requires faculty to be encouraged to revise their conceptions of each medium, consider its qualities, capabilities and limitations, have opportunities for hands-on practice, and reconceptualise it as a tool to assist teaching and learning.
- * A presentation on how instructional design must be revised and adapted for distance courses/programmes. This typically covers: the types of material that need to be developed to support instruction and learning; the graphics and other visual elements that need to be created with the capabilities of the delivery medium in mind; the instructional strategies and methods that are needed to maintain students' interest and promote interaction; and the need for increased planning, organisation and time to design and develop an effective distance course/programme.
- * Discussion of the presentation methods and 'social presence techniques' which can be employed to decrease interpersonal distance between the instructor and distance students. In the context of instructional television or videoconferencing, these 'social presence techniques' include addressing the distant students by name, making 'eye contact' with the camera, maintaining a relaxed posture, and speaking with an informal tone of voice while varying pitch and pace in discussions, questioning and answering.
- * A presentation on the importance of formative evaluation early in a course/programme to identify and remedy any problems which may prevent students from fully participating in,

and benefiting from, their studies, and summative evaluations to gain end-of-course input to revise and refine content and methodologies in accord with students' needs.

- * Recommendations to staff to visit each distant site at least once to meet the students and, if possible, deliver sessions from these sites in order to decrease any sense of distance or isolation.
- * A session on providing on-going support for students. Many support functions, such as library access, advisement, admissions and registration, financial aid and so on are taken for granted by faculty and students accustomed to on-campus classes. Distance education programme developers and faculty need to ensure that their students not only have access to those support elements listed, but also to the all-important technical and logistical support, psycho-social or affective support and tutorial/ counselling/ mentoring support. The capacity to provide, or arrange access to, these services and support systems is critical if faculty are to make the role transition from sole disseminator of knowledge in the classroom to team member and facilitator of learning to the distributed group.

The examples below illustrate how certain institutions approach faculty development - and encourage recalcitrant faculty to participate in their programmes. The University of New Mexico's Distance Education Center, in addition to faculty development workshops for resident distance teaching faculty, offers workshops for institutions new to the distance education enterprise. The Center stresses that the development of successful programmes requires the efforts of a development team. It therefore strongly recommends that whole development teams, comprising administrators, programme developers/managers and faculty, should attend these workshops which address both general and role-specific needs. Hands-on training is utilised and faculty experienced in distance teaching offer advice on those techniques that work and those that do not.

At New Mexico State University, faculty are trained in the development of Interactive Study Guides (ISGS) which are used with ITV courses and prepackaged, self-paced videotaped courses. In their book *Teleclass Teaching: A Resource Guide*, Cyrus and Smith (1990) explain how an ISG is designed to minimise the verbatim note-copying behaviours of students and maximise their attention on instruction and interaction with content. An ISG utilises the format of a lecture outline, complete with reproductions of graphics and other visuals used during a presentation, and incorporates elements such as word pictures, small-group activities and directions on how to complete activities and assignments.

The Penn State University programme includes a Faculty Development Forum, at which invited speakers make presentations on topics or issues of interest to faculty engaged in distance teaching. These presentations are face-to-face, or audioconferenced. The latter provides access to a far wider range of resources than at Penn State itself and the experience of being on the 'receiving end' of a distance presentation. Such an approach also allows for comparison and sharing of instructional practices and media between Penn State faculty and various distance education centres across the country.

The University of Maryland has adopted a particularly creative approach in its faculty orientation programme. One component of this is a humorous videotape designed to illustrate good and bad ITV teaching techniques. This video, *ITV Nationals*, features two sportscasters who give a running commentary on the performance of a distance instructor 'competing' in a national event. A second video, *Confessions of an ITV Student*, and the accompanying manual, serve as a self-contained training package for students new to ITV. To encourage

faculty to attend the training programme, a lunch or dinner is organised and the videos are shown in an informal atmosphere with time for discussion.

At El Paso Community College in Texas, the emphasis is on authentic experience and practice, and faculty receive much of their training at a distance. The El Paso dictum, which guides both faculty training and instructional design for teaching at a distance, is 'Active monitor or active students'. 'Active monitor' refers to a frequent change in presentation mode, and 'active students' are those who are solving problems, writing, making decisions or answering questions together. Faculty are required to demonstrate facility with the technology as well as with a variety of presentation techniques and tools. They are trained in multimedia (including video) development, Internet tools, testing and evaluation, and the facilitation of cooperative learning. Participation in the programme is mandatory but faculty do receive time-release to attend.

The University of Alaska's faculty development programme addresses the cultural diversity of its distance students. Faculty are instructed on how cultural attributes may affect communication styles and interaction, reminded that English may not be the first language of all of their students, advised on how values and humour may differ, and encouraged to localise content so as to make it as meaningful and relevant as possible to the students. Faculty new to distance education are given the option of participating in a mentoring network wherein 'veterans' are paired with 'novices' to share their experience and offer advice and support as needed. This staff development network uses E-mail extensively to help conquer the enormous distances within the University of Alaska's distance education System.

The University of Idaho has developed a series of guides, Distance Education at a Glance, which deal with a range of distance education issues of interest to administrators, facilitators, teachers and students. These guides may be downloaded from their Website, and printed for non-profit educational purposes.

Conclusion

The underlining theme in this chapter is that faculty who are accustomed to, and secure in, conventional teaching methods will have to assume new roles and learn new skills if they are to be facilitators in a learner-centred distance education system. They need to be able to exploit the Potential of new telecommunication technologies, encourage deep learning and generally extend and enhance their roles as teachers. Thach and Murphy (1995) surveyed 103 distance educators working in academic institutions in the USA and Canada. Using the combined responses of two surveys, they came up with a competency model which they suggested would serve as a foundation for the design of faculty development programmes in distance education. They identified eleven roles for faculty teaching at a distance. These roles, which might be assumed by one or by several people, include: instructor, instructional designer, technology expert, technician, administrator, site facilitator, support staff, editor, librarian, evaluation specialist and graphic designer.

Faculty development programmes alone will not change roles. Distance teaching requires faculty to devote much more time to preparation than they would for a face-to-face classroom. In order to encourage faculty to teach at a distance, they must be provided with financial and other incentives such as adjustments in course load, adequate time-release, peer recognition and credit toward tenure and promotion (Beaudoin 1990; Dillon and Walsh 1992; Gunawardena 1992).

References

- Beaudoin, M. (1990) 'The instructor's changing role in distance education', *American Journal of Distance Education* 4(2): 21-9.
- Catchpole, M.J. (1992) 'Classroom, open, and distance teaching: a faculty view', *American Journal of Distance Education* 6(3): 34-44.
- Cyrs, Thomas E. and Smith, Frank A. (1990) *Teleclass Teaching: A Resource Guide*, 2nd edn, Center for Educational Development, College of Human and Community Services, New Mexico State University, Las Cruces.
- Dede, C. (1989) *The Evolution of Distance Learning: Technology-mediated Interactive Learning*, Washington, DC, Office of Technology Assessment, Congress of the United States.
- Dillon, C.L. and Walsh, S.M. (1992) 'Faculty: the neglected resource in distance education', *American Journal of Distance Education* 6(3): 5-21.
- Fulford, C.P. and Zhang, S. (1993) 'Perceptions of interaction: the critical predictor in distance education', *American Journal of Distance Education* 7 (3): 8-21.
- Garrison, D.R. (1993) 'A cognitive-constructivist view of distance education: an analysis of teaching-learning assumptions', *Distance Education* 14(2): 199-211.
- Gunawardena, C.N. (1992) 'Changing faculty roles for audiographics and online teaching', *American Journal of Distance Education* 6(3): 58-71.
- Gunawardena, C.N., Anderson, T. and Lowe, C.A. (1996) 'Interaction analysis of a global on-line debate and the development of a constructivist interaction analysis model for computer conferencing', paper presented at the Annual Convention of the American Educational Research Association, New York (April).
- Gunawardena, C.N. and Zittle, R. (1996) 'An examination of teaching and learning processes in distance education and implications for designing instruction', in M.F. Beaudoin (ed.), *Distance Education Symposium 3: Instruction*, ACSDE Research Monograph, No. 12, University Park, PA, Pennsylvania State University, pp. 51-63.
- Hackman, M.Z. and Walker, K.B. (1990) 'Instructional communication in the televised classroom: the effects of system design and teacher immediacy on student learning and satisfaction', *Communication Education* 39(3): 196-209.
- Hillman, D.C.A., Willis, D.J. and Gunawardena, C.N. (1994) 'Learner-interface interaction in distance education: an extension of contemporary models and strategies for practitioners', *American Journal of Distance Education* 8(2): 30-42.
- Jonassen, D.H. (1994) 'Thinking technology: toward a constructivist design model', *Educational Technology*, pp 34-7 (April).
- Kearsley, G. (1996) 'The nature and value of interaction in distance learning', in M.F. Beaudoin (ed.), *Distance Education Symposium 3: Instruction*, ACSDE Research Monograph, No. 12, University Park, PA, Pennsylvania State University, pp. 83-92.
- Mclsaac, M.S. and Ralston, K.D. (1996) 'Teaching at a distance using computer conferencing', *Techtrends* 41(6): 48-53.
- Monson, M. (1978) *Bridging the Distance: An Instructional Guide to Teleconferencing*, Madison, WI, University of Wisconsin-Extension, Instructional Communications Systems.
- Moore, M.G. (1989) 'Editorial: three types of interaction', *American Journal of Distance*

- Education 3(2): 1-6.
- (1993) 'Is teaching like flying? A total systems view of distance education',
American Journal of *Distance Education* 7(I): 1-11.
- Schmidt, K.J., Sullivan, M.J. and Hardy, D.W. (1994) 'Teaching migrant students algebra by audioconference', American Journal of *Distance Education* 8(3): 51-63.
- Short, J., Williams, E. and Christie, B. (1976) *The Social Psychology of Telecommunications*, London: John Wiley & Sons.
- Thach, E.C. and Murphy, K.L. (1995) 'Competencies for distance education professionals', *Educational Technology Research and Development* 43(I): 57-79.
- Wells, R.A. (1990) *Computer-mediated Communication for Distance Education and Training: Literature Review and International Resources*, Boise, ID: US Army Research Institute.
- Worley, L. (1993) 'Educational television and professional development: the Kentucky model', *Technological Horizons in Education* 20(11): 70-3.