

AN ABSTRACT OF THE THESIS OF

Donald J. Olcott Jr. for the degree of Doctor of Education in Education presented on December 7, 1994.

Title: The Critical Role of Faculty: Applied Frameworks and Strategies for Integrating Distance Education in Postsecondary Institutions

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This thesis asserts that faculty are the critical resource for the integration of distance education by postsecondary institutions. The major barriers to the participation and adoption of distance education center around faculty. This manuscript thesis incorporates a series of articles to develop applied frameworks and strategies that place faculty at the core of the institutional adoption process. An advocacy approach that integrates organizational culture and diffusion of innovation theories provides a conceptual framework for addressing the complex issues inducing faculty resistance to distance teaching. What issues impact faculty receptivity to distance teaching? At the institutional level, altered faculty roles for distance teaching, academic quality, inload vs overload teaching assignments, promotion and tenure, quality of instructional and student support services, and traditionally embedded academic norms affect faculty receptivity to distance teaching. Moreover, this thesis asserts that institutional and interinstitutional extended degree programs utilizing telecommunications must resolve issues related to curricular approval, accreditation, program prioritization, academic residency, fee structures, and articulation. Integrated instructional delivery frameworks are presented that fuse traditional instructional systems with new learning systems. These frameworks advocate the gradual integration of telecommunications-based coursework in extended degree programs to promote greater faculty participation, expand curricular offerings for students, and balance the introduction of new learning systems with traditional campus-based systems. A faculty support model for integrating distance education in postsecondary institutions delineates the key

organizations and professionals essential to faculty and institutional adoption. This model asserts that the centrality of faculty to distance teaching adoption requires mutual support from presidents, deans, departmental chairpersons, the faculty senate, media services, and continuing education. In conclusion, distance education compels postsecondary institutions to reduce existing barriers to faculty participation by compensating, rewarding and training faculty at levels commensurate with traditional instructional activities and to provide instructional and administrative support services designed to ensure student access to high quality programs. Without well trained and equitably rewarded distance teaching faculty, the potential of distance education will be seriously diminished. Within the mainstream academic culture, failure to ameliorate these human resource needs reduces faculty receptivity to, and participation in, postsecondary distance teaching. Institutions that satisfy these needs will simultaneously create a balanced equilibrium between the application of advanced technologies and human resource development necessary for ensuring instructional quality and student access to extended educational programs delivered via distance education.

The Critical Role of Faculty:
Applied Frameworks and Strategies for
Integrating Distance Education in Postsecondary Institutions

by

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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DEDICATION

I dedicate this work to Kelli and Janie for their love and support throughout this process. To Carrie for showing me that friendship is truly a precious gift of love. . . thanks C. B. To my parents, Don and Nan, for always being there and believing in me. To my brother Mark for always having a new song and a "cool one" to lighten the load. And to my dear sister Kathi for always keeping me laughing through her caring. I am forever grateful to each of you for your love and support.

PREFACE

This thesis was written using the Manuscript Format outlined in the Oregon State University Graduate School document "Preparing a Thesis or Dissertation at Oregon State University: A Graduate Student's Guide (1994). The following narrative delineates a brief overview of the manuscript thesis option format. The purpose of including this section is to provide the reader with a clear understanding of the Manuscript Format, its purpose, and the parameters for preparing a thesis using this format.

Manuscript Format General Requirements

In this format, the thesis is written basically as an article ("manuscript"), or several articles, for submission to scholarly journals. Each article represents a chapter of the thesis. Typically, a master's thesis contains only one article, a doctoral dissertation two to four.

The advantage of manuscript format is that the journal article or articles double as your thesis. That is, manuscript format allows you to prepare your report in a form acceptable to a journal, encouraging you to submit articles quickly for publication, without requiring you to also transform the article(s) into standard thesis format. However, you will have to restyle the article(s) because manuscripts submitted for journal publication must conform to individual journal specifications, whereas manuscripts submitted for the thesis must conform to the specifications in this guide.

The thesis in manuscript format, like that in standard format, must address a single theme. If it is more than one article, the articles *must be* related. An Introductory chapter common to all articles ties them together, a common Summary (or Conclusions) chapter synthesizes their results, and a common Bibliography aggregates all references cited. The pre-text sections of the thesis in manuscript format are identical to those in standard format. Appendices may be included in manuscript format as needed. (OSU Graduate School, 1994, pp. 5-6)

The Critical Role of Faculty:
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CHAPTER I

INTRODUCTION

During the last decade institutions of higher education have increasingly employed distance teaching systems to deliver instruction to off-campus learners. As more institutions enter the technological marketplace, academic leaders are continually faced with policy and delivery system issues related to the congruency of distance education with traditional academic practices, principles, and values. The recent fiscal crises facing American education have accentuated a growing receptivity among institutions to the use of alternative instructional delivery systems to enhance their extended mission, generate non-state funded sources of revenue, and supplement existing faculty incentive structures (Dillon & Walsh, 1992; Offerman, 1987; Olcott, 1993). Despite this growth, there remains considerable resistance by faculty and administrators to the adoption of distance education at the institutional level.

McNeil (1990) reported that leading policy analysts identified a number of areas where distance education lacks compatibility with traditional academic values. These included the collaborative team approach for designing distance learning instruction, diminished faculty control, removing faculty from intellectual control, and concern about the threat to faculty jobs. Distance education also raises issues pertinent to promotion and tenure, academic quality, residency, articulation, curricular review, academic freedom, and the broader congruency of distance education with institutional mission (Olcott, 1991; 1992; 1993).

Purpose and Scope

The purpose of this thesis was to develop applied frameworks and strategies to facilitate the adoption and integration of distance education by postsecondary institutions. The conceptual basis for this approach was initially centered around the premise that distance education and traditional academic practices, principles, and values may lack congruency. Moreover, this potential incompatibility suggested that the integration of distance education by postsecondary institutions may face considerable resistance by faculty and administrators.

Distance education instructional delivery systems extend courses and programs to learners geographically separated from the main campus (Keegan, 1986). As an alternative instructional system, it is clearly evident that faculty are essential to the acceptance and adoption of distance education (Clark, 1993; Gilcher & Johnstone, 1989; Grossman, 1987; Gunawardena, 1990; Kirby & Garrison, 1989; Koontz, 1989; McNeil, 1990; Olcott, 1991; Strain, 1987). This preliminary review of literature in concert with informal discussions with distance education experts across the United States and with OSSHE faculty suggested that the successful integration of distance education by postsecondary institutions must center around faculty.

A faculty-centered approach raised three fundamental questions.

1. Are traditional academic practices, principles, and values congruent with integrating distance education in postsecondary institutions?
2. What traditional institutional practices, principles, and/or values must be addressed to facilitate the integration of distance education by postsecondary institutions?
3. What frameworks and strategies can be proposed and applied to facilitate the integration of distance education by postsecondary institutions?

This thesis asserts that faculty are the essential resource for successfully integrating distance education in postsecondary institutions. Moreover, the divergent practices and

issues that emerge around the integration of distance education all share one common theme: all affect, and are affected by, faculty.

Conceptual Approach

The premise that distance education may lack congruency with traditional academic practices, principles, and values is grounded in two theoretical approaches: organizational culture theory and diffusion of innovation theory. A brief summary of these theoretical approaches is provided below.

Essential Elements of Organizational Culture

Organizational culture is a system of shared values and beliefs about the organization. These values provide meaning to organizational members' regarding what principles, practices, and values are important; and the behavioral norms that are often unwritten and yet expected in support of these basic components. Simply stated, organizational culture is the rules of the game or the way things are done in a particular organization (Deal & Kennedy, 1982). The meaning, importance, and acceptance of these values by individuals may or may not be congruent with that of the organization. Peters and Waterman (1982) stated: ". . . excellent companies are marked by very strong cultures, so strong that you either buy in or get out" (p. 77).

A second component for understanding organizational culture is symbolism. This refers to the rituals, myths, traditions, and language through which organizational values, their meaning, and the associated behavioral norms are passed on from one generation of the organization to another (Deal & Kennedy, 1982). Peter's and Waterman (1982) suggested that ". . . in an organizational sense, these stories, myths, and legends appear to be very important because they convey the organization's shared values or culture" (p. 75).

A strong organizational culture implies an underlying commitment to the holistic development of organizational members (Deal & Kennedy, 1982). This organizational commitment is probably dependent upon the degree to which members accept and adhere to organizational values. This commitment by the organization to its members presumes that organizational members' adhere to the core practices, principles, and values embraced by organizational leadership. In reality the organization's commitment to its members is likely proportional to the members commitment to the organization. This involves a "mutual acceptance" and belief in the "shared values" of the organization. Though individual growth and development are indicative of strong organizational cultures, those members who resist the socialization process and deviate from the core values may find themselves alienated and in conflict with the organization and other members.

The origins of a strong organizational culture are embedded in a comprehensive philosophy that provides cohesiveness to the organization and its members. Ouchi (1981) stated: "A philosophy gives people a sense of values to work and live by, and it suggests ways for the organization to behave in response to its people, its clients, and the community it serves" (p. 101). A concise, clear organizational philosophy creates the guiding force for developing a proactive culture that binds an organization and its members. It can also be a powerful socializing force that can lead to teamwork and trust. A strong organizational philosophy is essential for creating an optimum organizational culture by giving meaning to the shared values and corresponding behaviors (Deegan, Steele, & Thielen, 1985).

Finally, strong organizational cultures are characterized by transformational leaders who have been instrumental in shaping culture (Peters & Waterman, 1982). This essential leadership role is not new to organizational theorists. Barnard (1968) articulated the role of the executive in the development of shared values in an organization: " The essential functions are, first, to provide the system of communications; second, to promote the securing of essential efforts; and third, to formulate and define purpose" (p. 217). The

transformational leader creates organizational purpose and empowers members to feel ownership in the shared values, symbols, and philosophy or mission of the organization (Burns (1978).

In summary, organizational theorists have proposed that successful organizations possess basic core values that guide organizational and individual behavior (practice) (Barnard, 1968; Burns, 1978; Deal & Kennedy, 1982; Ouchi, 1981; Owens, 1987; Peters & Waterman, 1982; Schein, 1985; Tierney, 1988). Interwoven among these core values is the loose-tight-principle (Peters & Waterman, 1982). This principle suggests that as long as organizational members behavior is generally aligned with these values, individual creativity and innovation are supported. When individual or subunit behavior moves outside the realm of these core values, the organization "tightens" as a response to guide behavior back to the core value matrix. In otherwords, organizational resistance increases in response to innovations that threatened the core value matrix. Peters and Waterman (1982) wrote:

Without exception, the dominance and coherence of culture proved to be an essential quality of excellent companies. Moreover, the stronger the culture and the more it was directed towards the marketplace, the less need was there for policy manuals, organizational charts, or detailed procedures and rules. In these companies, people way down the line know what they are supposed to do in most situations because the handful of guiding values is crystal clear. (pp. 75-76)

Deal & Kennedy (1982) summarized the importance of organizational culture.

They wrote:

The future holds promise for strong culture companies. Strong cultures are not only able to respond to an environment, but they also adapt to diverse and changing circumstances. When times are tough, these companies can reach deeply into their shared values and beliefs for the truth and courage to see them through. When new challenges arise they can adjust. (p. 195)

The theoretical approach of organizational culture suggests that postsecondary institutions are characterized by a set of basic practices, principles, and values that are embraced by the

faculty and the institution. Commonly referred to as the "academic culture" (Owens, 1987), this concept may be defined as:

...the shared principles, practices and values of the institution that guide organizational and individual behaviors, provide meaning to faculty, staff students, the public, and administrators; and communicate the basic philosophy of the institution through traditions, rituals, language, and formal and informal communications channels. (Olcott & Dunham, 1991)

What are some of the shared principles, practices, and values for institutions of higher education? Drawing upon the work of Owens (1987) and Tierney (1988), these may include:

1. Faculty are the embodiment of the "academic mission" and are an institution's most valuable human resource.
2. The "academic mission" (e.g., teaching, research, and public service) is the central philosophical value of the institution.
3. Academic freedom, instructional quality & effectiveness, curricular control, classroom autonomy, intellectual property rights, academic residency, and promotion and tenure are perceived as central values and practices by faculty.
4. Discipline specialization for the creation, dissemination, and application of existing and new knowledge characterizes institutions of higher education.

These principles, practices, and values are not all-inclusive and the priority of individual values varies across institutions (e.g., community colleges, research universities, regional four-year colleges, etc.) and respective subunits (e.g., engineering, education, business, arts and sciences, etc.). These values are, however, commonly advocated by faculty and administrators to guide organizational and individual practice. They are often defended by faculty and are resistant to innovative change (distance teaching) that challenges their permanency and legitimacy.

Diffusion of Innovation Theory

Distance learning is new to many administrators, faculty, and students whose only instructional reference is traditional face-to-face pedagogy. Moreover, any innovation perceived as "new" creates uncertainty and resistance for those affected by the innovation (Owens, 1987; Rogers, 1983).

Rogers' (1983) theory of innovation diffusion suggested that the attributes of an innovation affect the subsequent degree and rate of adoption. Innovation attributes include:

1. Relative advantage of the innovation.
2. Complexity of using or diffusing the innovation.
3. Compatibility of the innovation with existing structural systems and values.
4. Trialability of the innovation to be tested on a pilot basis.
5. Observability of the innovation to assess effectiveness and acceptance.

Theoretically, innovations that are perceived to have multiple advantages, are easy to use, are compatible with structural systems and values, and can be effectively pilot tested and observed will be adopted more readily than innovations lacking optimum attribute characteristics. Olcott (1991) discussed the adoption of distance education within the innovation diffusion framework (see pages 63-64 this document).

An Integrated Conceptual Approach

The adoption of distance education by postsecondary institutions may be enhanced by an advocacy approach that integrates organizational culture and innovation diffusion theories. A reiteration of the three essential assumptions stated earlier is necessary. First, faculty are the essential resource for distance education adoption. The major issues to be resolved center around faculty. Second, traditional academic principles, practices, and values and distance education may lack congruency. For the assimilation of distance education to occur, the institution (and faculty) must adapt or accommodate distance

education, distance education must realign its principles and practices for institutional adoption, or both the institution and distance education must adapt.

Third, distance education's potential for institutional assimilation and adoption depends on enhancing the innovation attribute characteristics so that distance education is perceived by faculty as offering multiple advantages, is easy to use, and is compatible with traditional academic norms. The key point here is that the institution, distance education systems, or both (reciprocal adaptation) must adapt to create an environment where academic norms and new learning systems are mutually compatible.

An applied example of this integrated conceptual approach is warranted. Distance education requires a team approach for the design of instruction via technology. The typical team includes the faculty member, an instructional design specialist, a production expert, technicians, and a representative from a continuing or distance education unit to administer instructional and student support services.

The team concept is contrary to the traditional faculty role of individual academic autonomy over the instructional process where all decisions are made by the faculty member inside and outside the classroom. Grossman (1987) discussed the potential for distance education to remove faculty from their key role in the instructional process and subvert classroom autonomy, curricular control, and by inference, academic freedom. He wrote:

The fact is that instruction is a creative, dynamic process which has an impact upon the life of the mind and the research of an faculty member. Removing productive from the processes of instruction is to diminish the quality of the instructional enterprise of the institution. This, perhaps, idealizes the role of faculty and centrality of instruction at the modern university. (p. 6)

Faculty who embark upon course development for technological delivery are often in for a rude awakening. They find that they are submerged in the course development process, taking a back seat to production and technical personnel. Faculty are relegated to the role of content consultant while the media course takes on a life of its own. With considerable investment and risk the funding agency or media producers take charge leaving the faculty

member identified in name with the course, but in fact, only an adjunct to its development. As is often the case, faculty defer to the media people who are expert in the production processes, with the result that with the increasing erosion of faculty authority, the course is no longer reflective of the faculty minds (p. 9)

Faculty locus of control for the instructional process has been a traditional practice embraced by faculty and institutions alike. In the faculty member's view, distance education may be perceived as offering few advantages, inherently complex, and most importantly, incompatible with the traditional role(s) of faculty in the instructional process.

From the diffusion of innovation approach, the attribute characteristics of distance education are perceived as negative and even threatening to the faculty member. Moreover, this results in resistance by the faculty member to participation and adoption of distance teaching.

How can faculty receptivity to distance education be increased? First, advocates must recognize that instructional autonomy is a central practice valued by faculty. They must present faculty with potential benefits of the team approach such as opportunities for research, learning about technology, and others. Secondly, unless the attribute characteristics of distance education (multiple advantages, low complexity, high compatibility) are positively enhanced, faculty resistance will remain. In this example, the integrated approach suggests that both faculty and distance education practice must adapt or accommodate for the assimilation of distance teaching to occur. The reader is reminded that there are many issues that collectively impact faculty resistance to distance teaching and this example is provided only to illustrate the organizational culture-innovation diffusion approach.

This approach places faculty at the center of the instructional process. This central theme is interwoven throughout subsequent chapters. The organizational culture and innovation diffusion approach is not intended to guide the analysis and synthesis of every issue throughout this thesis. It is presented as a broad theoretically-based framework to

conceptually understand the origins of the articles and the complexity of issues affecting the integration of distance education in postsecondary institutions.

In summary, this approach identifies the area of distance education practice, assesses the compatibility of the practice with existing academic practices, principles and/or values using the innovation attributes, and develops strategies to align distance education and academic culture more closely by enhancing attribute characteristics. Adoption may occur by institutional or distance education adaptation, however, it is often reciprocal where both make some accommodations (reciprocal adaptation).

The frameworks and strategies presented in this thesis are primarily based on an integrative, reciprocal adaptation approach where the institution and distance education must adapt to facilitate the effective integration of distance teaching. For example, if faculty are going to support distance education as a viable instructional endeavor towards the promotion and tenure process, the institution and subunit must give equal weight to extended teaching via technology. Conversely, distance education systems must demonstrate the capacity for instructional effectiveness and well-designed instructional and student support services commensurate with campus instructional programs.

Thematic Synthesis of Chapter Articles

Chapter 2 provided a comprehensive review of literature focusing on three areas related to distance teaching. The first section examined faculty attitudes toward distance education and barriers to faculty participation and adoption. Section two reviewed literature related to instructional effectiveness and student attitudes and perceptions toward distance education. The final section synthesized the major findings on student performance in distance education.

The inclusion of this review was intended to establish an understanding of the complex issues related to faculty adoption of distance teaching in postsecondary

institutions. Moreover, it accentuated the need for a flexible conceptual framework (organizational culture-innovation diffusion) for institutions, distance education advocates, and other change agents to facilitate the integration of distance teaching in postsecondary institutions. Lastly, it provided the content basis for the frameworks and strategies presented in subsequent chapter articles.

Chapter 3, "Bridging the Gap: Distance Learning and Academic Policy" (Olcott, 1991), opened with a discussion of the "need for more flexible and responsive academic policies" (p. 49) to accommodate the increasing adoption of distance education across higher education. Policy issues related to distance education were presented and included academic quality, academic residency, faculty incentives, promotion and tenure, and inload vs overload teaching assignments.

This article was based on three basic assumptions for creating effective distance learning extended degree programs. These included:

1. Faculty participation and support are critical for developing distance learning programs.
2. The adaptation and revision of academic policies to serve distance learners should accompany the development of extended degree programs.
3. Distance learning is a multi-instructional delivery system within the broader extended learning framework.

Faculty are at the center of the academic culture and essential to the adoption of distance education. Figure 3.1 (see page 56 this document) provided an integrated instructional framework that was a synthesis of traditional and distance learning delivery systems.

Olcott (1991) discussed the advantages of this approach (see pages 55-57 this document).

The integrated instructional framework was followed by an expanded discussion of selected academic policy issues related to the adoption of distance education. The article concluded with an advocacy approach that combines the conceptual framework of diffusion of innovation theory and organizational culture.

Chapter 4, "Policy Issues in Statewide Delivery of University Programs by Telecommunications" (Olcott, 1992), examined the role of a statewide telecommunications network for increasing student access to university degree programs. This article expanded the framework presented in Chapter 3 to include more complex extended degree policy issues such as program prioritization, institutional curricular approval, accreditation standards, fee structures, and articulation. The integrated instructional framework for designing extended degree programs presented in Chapter 3 (see Figure 3.1 - page 56 this document) was expanded to an interinstitutional instructional framework (see Figure 4.1 - page 79 this document).

In expanding the conceptual framework of Chapter 3, this article was predicated on four axioms for statewide telecommunications networks to increase educational access to university degree programs. Olcott (1992), pp. 14-15 - see pages 68-69 this document) summarized these as:

1. The capacity of an institution to effectively participate in a statewide telecommunications network is dependent on the successful resolution of administrative, faculty, student, fiscal and support issues at the institutional level.
2. Program curricular approval and accreditation review of extended degree programs must precede program delivery. Extended degree programs require institutional curricular approval and subsequent approval by state system administration and a state board of higher education or equivalent authority. Implementing an extended degree program is considered a "substantive change" in the institution's mission and requires review and approval by the governing accrediting agency (Northwest Association of Schools and Colleges, NWASC, 1988).
3. Revision of existing institutional academic and administrative policies should accompany the development of extended degree programs (Olcott, 1991). Revising institutional policies to increase student access to extended degree programs requires curricular review and approval by an institution's policy making bodies, including the

Curriculum and Graduate Councils of the Faculty Senate, the Provost or chief academic officer, and system wide administration.

4. Telecommunications instructional delivery systems exist within an integrated extended learning framework. Telecommunications systems complement traditional instructional delivery systems and most programs are a synthesis of these systems (Olcott, 1991).

Chapter 5, "Access to Learning: Integrating Telecommunications Instruction in University Extended Degree Programs" (Olcott, 1993), provided a synthesis of the major issues and frameworks presented in Chapters 3 and 4. This article emphasized the importance of aligning distance education with institutional mission, the pivotal role of faculty in the adoption process, and the assumptions that support the integration of telecommunications-based-instruction. The article concluded with six general recommendations for integrating telecommunications-based instruction into interinstitutional extended degree programs. The recommendations were generic to most postsecondary institutions and reflected the broader institutional imperatives for the integration of distance learning systems. More importantly, their underlying interrelationships were centered around the centrality of faculty, creating a closer alignment between distance education and academic culture, and an integrated instructional delivery framework for designing extended degree programs.

Chapter 6, "Audio Teleconferencing and the Adult Learner: Strategies for Effective Practice" (Olcott & Hardy, in press), identified critical factors for selecting audio teleconferencing as an instructional delivery system for distance learning. A number of recommended strategies were outlined for administrators, faculty, and distance teaching advocates whose responsibilities range from training faculty and providing student and instructional support services to designing administrative and fiscal infrastructures for managing audio teleconferencing programs.

This article presented applied strategies for faculty using audio teleconferencing as a teaching medium in postsecondary instructional programs. Although administrators and

distance teaching advocates will find these strategies useful for planning and advocacy, the critical role of faculty remains central to the integration of audio conferencing in postsecondary institutions.

The first section of the article examined the importance of aligning audio conferencing with academic mission, the potential of audio conferencing to enrich the depth and breadth of student learning through quality interaction, and the absence of a video component that may make audio conferencing incongruent with the visual norms of traditional face-to-face instruction.

The second section discussed considerations for selecting audio conferencing as an instructional medium. These included course content, course level, and the roles of on-site facilitators. Section two was followed by a delineation of the planning process for audio conferencing and preliminary decisions that must be addressed. These included selection of the planning team, number of students and sites, marketing strategies, and budgeting. Sample budgets were included in Tables 6.1 & 6.2.

Section four examined equipment needs and preliminary tests to ensure audio conferencing technical quality. This section was followed by a list of general strategies for administrators, faculty, and facilitators. These included educating students about using the technology, planning hands-on student activities during the first session with the technology, the importance of well-trained site facilitators, the need for reviewing instructional design parameters of the course, alternating teaching sites for faculty, and the provision of student instructional materials.

The final section presented four additional strategies specific to faculty. These included providing self-directed learning opportunities for students, the importance of the pace of instruction, instructional strategies to foster critical analysis and reflection by students, and demonstrating mutual respect for varying student perspectives and individual differences. A summary outlined the advantages and limitations of audio conferencing.

This article supported the thematic focus of this thesis in several ways. First, it placed faculty at the center of the instructional process, particularly within the team approach for designing distance learning instruction. Second, the absence of a visual component in audio teleconferencing runs counter to faculty's traditional reliance on visual and verbal classroom communications. This was a primary example where a distance teaching medium was incongruent with the traditional practice of the academic culture.

Third, audio teleconferencing tends to be embraced by most faculty when integrated into the traditional classroom format for accessing expert scholars and guest speakers. Conversely, audio teleconferencing as a "stand alone" technology is generally resisted by faculty and viewed at the low end of "acceptable" instructional approaches. Viewed from an innovation attribute perspective, the absence of video (disadvantage) and incompatibility (contrary to face-to-face norms) accentuated resistance and subsequent adoption by faculty. The magnitude of these issues appeared to negate the positive attributes of low cost, user-friendly, portability, and capacity as an integrative technology for instruction.

Chapter 7, "A Faculty Support Model for Integrating Distance Education in Postsecondary Institutions" (Olcott & Wright, 1994), presented a faculty support model for facilitating participation and adoption of distance education. This article evolved from the organizational culture-innovation diffusion advocacy approach delineated in Chapters 1 and 3 in concert with the literature review provided in Chapter 2.

The development of the faculty support model and the proposed recommendations and strategies for facilitating faculty participation were based on two questions examined in this article.

1. Are traditional academic practices, principles and values congruent with distance education practice? If not, where do they diverge and on what issues?
2. What barriers affect faculty participation in, and adoption of, distance education?

The article opened with a discussion of organizational culture and diffusion of innovation theories and a brief summary of the integrated advocacy approach. Section two examined major issues that affect faculty participation and adoption and identified key individuals and support organizations essential to a faculty support model (see Figure 7.1 - page 128 this document). The article concluded with ten recommendations and strategies for promoting faculty and institutional adoption of distance education.

Chapter 8 summarized the purpose, major assertions, frameworks and strategies presented in this thesis, particularly their relevance supporting the centrality of faculty to the integration of distance education by postsecondary institutions. The chapter delineated implications for practice and further research and concluded by addressing the critical role of faculty to the adoption of distance education.

CHAPTER 2

REVIEW OF LITERATURE

Faculty Attitudes Toward Distance Teaching

Clark (1993), commenting on the importance of distance education faculty in the United States, wrote:

. . . little research has focused on the attitudes of American college and university teachers toward college-level distance education and toward the use of specific media in distance education provision. The attitudes of both participating and nonparticipating faculty toward distance education need further examination, since teaching innovations cannot succeed without their support. (p. 19)

The developmental process of faculty attitudes toward instructional innovations is complex and not easily discernible (Geyer, 1985; Kazlow, 1977; Medsker & Associates, 1975; Patton, 1975; Rogers, 1983; Stetson, 1979). The findings from these studies have been mixed. Some reported both positive and negative attitudes toward instructional television by nonparticipating faculty. Participating faculty tended to view ITV more favorably over time, although a negative first time experience often deterred the most receptive faculty from future participation (Dillon & Walsh, 1992).

Schramm (1962) concluded from his review of 100 college level ITV studies that faculty who used it developed favorable attitudes; nonparticipating faculty tended to be suspicious and resistant. Starlin & Lollas (1960) reported that individual professors in the Oregon State System of Higher Education expressed "considerable resistance" to ITV. An important factor, however, is that ITV lacked an interactive component in the early 1960's.

Institutional resistance to adopting distance education affects faculty receptivity (Gunawardena, 1990; Heinich, 1984; McNeil, 1990). Paradoxically, faculty resistance has been attributed to the slow rate of adoption and top level administrative support at the institutional level (Gunawardena, 1990; McNeil, 1990; Stinehart, 1988). Clearly

institutional growth and faculty participation in distance education are inseparable. McNeil (1990) stated: "the attitudinal issues - - how people perceive and react to these technologies - - are far more important now than structural and technical obstacles in influencing the use of technology in higher education" (p. 2). Recognizing the quintessential role of faculty in distance learning, it is surprising that empirical studies on learner outcomes and attitudes have overshadowed greater attention to faculty. Until recently, the research has neglected a scholarly focus on faculty attitudes and perceptions toward distance teaching (Beaudoin, 1990).

What does the general literature report on distance teaching faculty? LaRose (1986) surveyed 154 faculty and reported that the majority were full time and 50% had previously taught one or more television courses. Dillon (1989) examined the characteristics of Oklahoma telecourse faculty. The findings indicated that of the 82 faculty that responded, the majority had been at their institution over six years, two-thirds held the master's degree and one-third earned doctorates.

Dillon, Hengst & Zoller (1991) surveyed 88 faculty (54% of the population) who taught ITV courses and reported 63% held doctorates and had a mean average of 14.5 years at their institutions. Across academic disciplines, 44% represented the arts and sciences while 54% were from business, education, and engineering. These general findings suggested that ITV attracted senior faculty teaching in disciplines with external constituencies such as teachers, engineers, computer science and business professionals. Moreover, these disciplines created natural markets for workforce training, inservice professional development, and employed degree students (Clark, Soliman & Sungaila, 1985; Dillon & Walsh, 1992).

Several studies have reported positive attitudes by faculty toward distance teaching (Dillon, 1989; Johnson & Silvernail, 1990; Mani, 1988; Parer, 1988; Purdy & Incenogle, 1976; Taylor & White, 1991). Moreover, faculty attitudes tended to improve

as faculty experience with distance teaching increased (Gilcher & Johnstone, 1989; Kirby & Garrison, 1989).

How do faculty *perceive* the performance of distance students? According to three studies of faculty perceptions (Dillon, 1989; Johnson & Silvernail, 1990; & Parer, 1988), faculty believed distance students performed equal or better than traditional students. These results were consistent with contemporary research on ITV student performance. Although Taylor & White (1991) found faculty positive toward distance teaching, faculty also expressed a preference for traditional face-to-face instruction. Why? The quality of face-to-face interaction and the satisfaction from teaching in traditional settings were identified by these faculty.

Koontz (1989) suggested that the hierarchial structure of academic ranks, particularly the rewards and incentives for promotion and tenure deterred faculty participation in distance teaching by non-tenured lower rank faculty. Clark et al. (1985) stated that higher level faculty found distance teaching more enjoyable and demanding than faculty in lower ranks. These findings suggested that traditional rewards and incentives relative to promotion and tenure in the university were insufficient to induce non-tenured, lower ranking faculty to participate in distance teaching.

A few studies have found that faculty perceive distance teaching as less rewarding with few career advantages as well as less scholarly than other teaching endeavors (Dillon, 1989; Parer, 1988; Siaciwena, 1989; Stinehart, 1988). Interestingly, Taylor & White (1991) concluded from their literature review that all faculty are motivated by intrinsic rewards (e.g., prestige, self-esteem, etc.) rather than by extrinsic or monetary rewards.

Conversely, many faculty have identified the advantages of distance teaching as the capacity to reach new learners (access), opportunities to teach highly motivated adult students, flexible work schedule, improving course organization and availability to experiment with multi-media instructional approaches (Clark et al., 1985; Dillon et al., 1991; Johnson & Silvernail, 1990; Taylor & White, 1991).

What factors deter faculty participation in distance teaching? We have briefly touched upon reward and incentives issues, however, there are others. Dillon & Walsh (1992) wrote that many faculty perceive distance teaching as "less rewarding, offering fewer career advantages, and as less scholarly than other teaching activities" (p. 10). Olcott (1991) raised an important question:

To what extent will distance teaching apply towards promotion and tenure? Most faculty will pursue activities that contribute to professional advancement. In academia, professional development is often synonymous with promotion and tenure. Embarking on an endeavor such as distance teaching without providing appropriate recognition towards promotion and tenure will deter faculty participation. Institutions and individual academic units may need to modify existing criteria and delineate how distance teaching will apply toward promotion and tenure. (p. 56 - see p. 62 this document)

Some studies have suggested that academic departments must integrate distance teaching into on-going unit budget policies and promotion, tenure and merit policies (Dillon, 1989; Gunawardena, 1990; Kirby & Garrison, 1989). Gilcher & Johnstone (1989) found that faculty most satisfied with distance education "were those who felt they had clear support from the individuals whom they defined as important, i.e., the department chairperson or significant colleagues" (p. 55). Parer (1988) reported that participating distance teaching faculty perceived distance education to be a responsible academic pursuit, however, they also believed it lacked prestige among their colleagues in traditional settings.

Several studies have identified barriers to faculty participation such as additional workload, inadequate training and release time, concerns about technical quality, reduced student interaction, lack of resources and underdeveloped instructional and student support services (Bankirer, 1987; Clark et al., 1985; Dillon et al., 1991; Olcott, 1991;1992;1993; Parer, 1988; Scriven, 1986; Siaciwena, 1989; Stinehart, 1987).

There is a key point here. Promotion and tenure, a central component of traditional academic culture, defines what faculty activities are rewarded. This indirectly or directly determines the degree of support (e.g., monetary, release time, training, instructional

and administrative support services, etc.) that the institution, the academic unit, and support organizations (media center and continuing education) direct towards distance education. Faculty look to their departmental chairperson and dean who in turn look to top administration for visible, demonstrated indicators of support for distance teaching.

Gellman-Buzin (1987) wrote:

Telecommunications will not succeed in any organization without top-level administrative support. Those colleges that lead in the technological marketplace have presidents who are convinced that telecommunications is good for the institution and for the President. (p. 80)

Faculty certainly perceive the level of actual support by observing the actions and rhetoric of those who evaluate performance, make policy and allocate resources. Dillon (1989) reported that chief academic officers believed distance education benefitted their academic programs and believed distance teaching faculty were adequately rewarded. Conversely, faculty at those same institutions felt that institutional enrollment and evaluation policies failed to reflect equitable rewards. The degree of congruence between the mission of the distance education program with institution mission along with institutional history with distance education and technology have shown to be related to the level of support at all levels (Dillon, 1989; Gilcher & Johnstone, 1989). Gunawardena (1990) suggested that providing financial incentives for academic departments will increase acceptance among department chairpersons and significant colleagues.

A critical faculty perception that appears to induce resistance to distance teaching has less to do with incentives than with the perceived role of the faculty member in the instructional process. Stinehart (1988) reported that faculty control was the most important determining factor whether faculty were willing to teach a distance. Faculty who perceived that distance teaching resulted in a loss of control over the instructional process were less willing to teach over ITV. Using multiple regression analyses to identify factors affecting faculty attitudes toward distance teaching, Stinehart's results suggested that

awareness of distance teaching, perceptions toward mediated instruction, course logistical issues, quality of written and produced materials, level of institutional support, and instructional control collectively impacted faculty attitudes.

By its very design, television instruction transcends the solo faculty member's control by the inclusion of instructional designers, production and technical personnel and administrative support personnel. In effect, distance teaching becomes a collaborative team approach many faculty perceive as contrary to traditional classroom locus of control. The literature has provided some contrary views of the role of faculty in distance teaching.

Grossman (1987) discussed the potential of distance teaching to remove faculty from their key role in the instructional process and compromise classroom autonomy, curricular control and by inference, academic freedom. He wrote:

The fact is that instruction is a creative, dynamic process which has an impact upon the life of the mind and the research of any faculty member. Removing productive faculty from the processes of instruction is to diminish the quality of the instructional enterprise of the institution. This, perhaps, idealizes the role of faculty and centrality of instruction at the modern university. (p. 6)

Grossman elaborated on this by suggesting that the team approach to distance teaching may in fact subvert the faculty member's preeminent role in the instructional process.

Faculty who embark upon course development for technological delivery are often in for a rude awakening. They find that they are submerged in the course development process, taking a back seat to production and technical personnel. Faculty are relegated to the role of content consultant while the media course takes on a life of its own. With considerable investment and risk the funding agency or media producers take charge leaving the faculty member identified in name with the course, but in fact, only an adjunct to its development. As is often the case, faculty defer to the media people who are expert in the production processes, with the result that with the increasing erosion of faculty authority, the course is no longer reflective of the faculty minds. (p. 9)

Strain (1987) stated what has subsequently been echoed by other researchers (Beaudoin, 1990; Catchpole, 1992; Dillon & Walsh, 1992; Duning, Van Kekerix &

Zaborowski, 1993; Gunawardena, 1990; Purdy & Wright, 1992; Smith 1991): "The role of the faculty changes when making the transition from classroom to teaching distance students" (p. 63). Asserting that the changing roles of faculty for distance teaching are necessary and advantageous, Strain cited the works of Wedemeyer (1981) and Peters (1983).

What is different about learning via technology is the scope of learning facilitated by technology, the altered roles of teachers and learners, the changed environment for learning necessitated by technology, and the sophistication of the process used in developing instruction that will be communicated by technology. (Wedemeyer, 1981, p. 111)

As tutors and consultant have largely been relieved from the task of conveying course matter, they are able to devote themselves to a considerable degree to more demanding tasks, such as aiding motivation, providing individual support, structuring course content for students, identifying problems and establishing connections. (Peters, 1983, p. 108)

Even Grossman (1989) stated: "It requires participating faculty to change roles, from being creators of instruction to managers of resources and students, and to disseminate the views of someone else. The adoption process deprives faculty of a truly creative role in instruction" (p. 6).

These contrary views reflect basic assumptions about the relationship of distance teaching and traditional academic values. Grossman suggested that relinquishing curricular control, classroom autonomy and perhaps elements of academic freedom subverts traditional values of the academy. McNeil (1990) reported that leading policy analysts identified the following areas where distance teaching lacks compatibility with traditional academic values: (a) team approach to designing instruction, (b) diminished faculty authority, (c) removing faculty from intellectual property control, and (d) concerns about threat to faculty jobs.

Distance teaching, conceptualized within the mainstream academic mission, places the locus of control for the instructional process with faculty. Grossman's assessment was

overstated and failed to acknowledge that many faculty embrace new opportunities to integrate instructional media, work with specialists, and reflect on their traditional classroom practices. Moreover, distance teaching can enhance a renewed if altered view of the boundaries (and flexibility) of academic freedom, curricular control, classroom autonomy and academic quality.

Distance education is an alternative to traditional pedagogical practice that must be framed within the context of the mainstream academic culture and its values (Wagner & Elms, 1993). The transformational changes facing higher education suggest that the academic mission and its values must be flexible without compromising the integrity and instructional roles of faculty. Dillon and Walsh (1992) succinctly summarized this point:

As the needs of students change so do the roles of faculty. The issue of ownership is crucial in the development of distance education, for we should never allow the technology to "drive" the content. Likewise, the academy has a responsibility to shift from a faculty-centered to a student-centered educational system. The studies of effective distance teaching find that faculty who make this shift are not only more successful distance teachers, but also more successful classroom teachers. (p. 17)

In essence, distance teaching requires a receptivity by faculty to a new mindset about the instructional process. Beyond the broader issue of instructional control, the adaptation of instruction for mediated delivery involves the development of alternative approaches and competencies to ensure effective distance teaching. Unfortunately, most training programs focus on how to use technology rather than on effective teaching and learning strategies (Dillon & Walsh, 1992).

McNeil (1990) reported that even the most motivated faculty will be deterred without adequate support and training. Although the level of support services vary across institutions and units, the services faculty desire are clear: release time, training, assistance with preparation of course materials, clerical services, coordination of communication with distance students, marketing services, and timely distribution of materials to and from instructor and students (Dillon, 1989).

Faculty who taught via ITV believed training should encompass hands-on experience with the technology, developing skills to foster interaction, improving audiovisual materials, the role of the technician and the administration of support services for distance students (Gehlauf, Shatz, & Frye, 1991). An emerging theme from the literature is the need for faculty to understand and integrate the major tenants of human learning theory and motivation into designing their distance delivered courses. For example, training faculty to design instruction that incorporates principles such as gaining learner attention, continuous feedback, providing meaningful examples, relating new learning to existing knowledge, practical applications of new materials, practice, and summarizing and reviewing information just to name a few (Dillon & Walsh, 1992).

Clark (1993) conducted a national study of faculty at public institutions of higher education to assess receptivity to distance teaching and media and methods used for delivery. The purpose of this study was to examine five research questions:

1. General receptivity of faculty to college-credit distance teaching?
2. Are professional characteristics of faculty related to receptivity?
3. Does receptivity vary in relation to previous knowledge of distance education methods, classroom use of media, or prior knowledge of distance education?
4. What do faculty think about the different media and about methods commonly used in distance education?
5. How do faculty explain their receptivity or nonreceptivity to distance education?

The researcher conducted a comprehensive literature search (1966-1989) related to faculty receptivity to distance teaching in higher education. From this review, a questionnaire was developed containing twenty multiple-choice and Likert-scale items and three open-ended questions. The questionnaire was formatively evaluated in a pilot study of full-time regular faculty ($N = 9$) at a public midwest research university.

The sample was selected from full-time faculty at 57 public higher education institutions. Faculty members were randomly selected and stratified from each of 21

public research universities, from each of 20 universities classified as large comprehensive institutions, and from each of 16 public community colleges. The researcher did not describe the procedure for how institutions were selected. Sampling was made from faculty listings in the most recent institutional catalogue.

At each of the universities, a department chair, one other tenured professor, and one nontenured but tenure track professor were selected from each of the following departments: chemistry, marketing, and political science. According to the researcher, these academic units were selected because they were perceived as moderately innovative in using distance education. This rationale is questionable since some recent studies have suggested increasing participation by faculty delivering credit courses via technology in engineering, education, business and computer science (Olcott, 1992; 1993; OTA, 1989; Wergin, 1986).

Department chairs were selected because of their perceived importance in faculty adoption and participation in distance education. The increasingly influential role of department chairs has been documented in recent literature (Dillon & Walsh, 1992). The researcher did not specifically explain how he arrived at these sampling decisions. It was inferred that the researcher's literature review and experience with distance education formed the basis of sample selection.

Most of the 16 community colleges had interdisciplinary divisions rather than separate departments. Only two division chairs represented chemistry, marketing and political science. Because the community colleges often did not have tenure systems, six faculty members - two from each discipline and of any rank other than chair - were randomly selected.

During January 1992, surveys were sent to 189 research university faculty, 177 comprehensive university faculty, and 136 community college faculty (N = 502). Twenty-two surveys were undeliverable resulting in an initial sample of 480. After three follow-up surveys, 317 were returned for a response rate of 66%. The survey instrument also

included six items covering faculty professional and demographic characteristics. These included academic position, academic department, years in current position, age, gender, and preferred academic duties. Geographical location and institutional type based on the location and classification of the institutions chosen for sampling were added by the researcher.

Five survey items were designed to assess general attitudes toward distance education. These items asked respondents to rate their attitudes ranging from very negative to very positive toward (a) the general concept of distance education, (b) the development and distribution of distance education through educational consortia, (c) the use of distance education on college and university academic programs, (d) the use of distance education in the faculty member's program, and (e) the use of distance education by the faculty member in his or her academic program. The questionnaire rating scale used for assessing faculty attitudes ranged from 1.0 - 1.99 (very positive) to 6.0 - 7.0 (very negative).

Six questions addressed attitudes toward common distance education media and methods. These included (a) audioconferencing, (b) videoconferencing, (c) computer conferencing, (d) audiographics, (e) telecourses, and (f) distance education via correspondence study. Three additional items examined previous experience and familiarity of faculty in terms of (a) previous use of media in college teaching, (b) familiarity with the term "distance education," and (c) extent of previous use of distance education methods in college teaching. Finally, three open-ended questions asked respondents to explain their perceptions of the general concept of distance education, the use of distance education at their own institutions, and whether commensurate rewards for distance teaching was practiced at their institutions.

Statistical analyses of data consisted of frequencies, means, cross-tabulations, and subsequent ANOVA treatment. For score compilations, systematic specific descriptors were created to describe mean scores on attitudinal items within specific areas.

The results indicated faculty attitudes ranged from 1 to 7 and were slightly to moderately positive toward the use of distance education by educational consortia to deliver college level courses ($M = 3.69$; $N = 275$; $SD = 1.5766$). Faculty attitudes toward the general concept of distance education for college credit delivery were in the slightly positive range ($M = 3.77$; $N = 300$; $SD = 1.6592$). Ratings on the three remaining items indicated faculty were less receptive to more personalized distance education scenarios.

About one in five faculty members ($N = 63$) indicated a very positive attitude toward personal participation in distance education. A slight majority that expressed very positive attitudes were either department or division chairs (33.3%) or other tenured university faculty members (25%). Although only twenty-five percent of respondents overall were employed by community colleges, around 40% reported a very positive attitude toward personal use of distance education. The average rating on all distance education attitude items was 3.99 ($N = 257$; $SD = 1.6480$), indicating a generally neutral perception towards distance education by faculty.

Analyses of demographic and professional characteristics revealed some interesting results. Community college faculty were moderately positive toward the general concept of distance education ($M = 3.36$). Comprehensive university faculty were very slightly positive ($M = 3.84$); research faculty held neutral attitudes. Analysis of variance indicated community college faculty were significantly more positive in their attitudes toward the general concept than four-year faculty ($F = 3.56$; $df = 2, 297$; $p < .02$). Department or division chairs ($N = 80$) reported more positive attitudes toward the general concept of distance education than other faculty ($M = 3.59$; $N = 230$) although these differences were not significant at the $p < .05$ level.

Community college chairs ($N = 22$) were significantly more favorable toward the general concept than four-year-chairs ($N = 58$). The F ratio from this treatment was 4.76 ($df = 1, 79$; $p < .03$). Community college business faculty held the most positive attitudes

($M = 2.83$). Conversely, four-year faculty in chemistry and related departments were least positive ($M = 4.38$).

Gender data produced no significant differences in general attitudes, however, female community college faculty ($N = 25$) were significantly more positive in general receptivity ($M = 2.84$) than men ($N = 46$; $M = 3.72$; F value was 5.16 ($df = 6; 70$; $p < .0262$). Consistent with previous research findings, faculty with substantial experience and familiarity with the use of media and distance teaching methods were significantly more favorable than those who report little or no experience (Dillon & Walsh, 1992).

Visual media (videoconferencing, telecourses) were perceived most favorably by faculty. Videoconferencing was rated slightly to moderately positive ($M = 3.68$) followed by telecourse study ($M = 3.77$). Audiographics ($M = 4.18$), computer conferencing ($M = 4.36$), correspondence study ($M = 4.63$), and audioconferencing ($M = 4.92$) were perceived by faculty in the slightly to moderately negative range. Community college faculty held positive attitudes toward four of the six media/methods. Telecourse was the most preferred ($M = 3.09$), followed by videoconferencing ($M = 3.30$) and audioconferencing ($M = 4.14$). Four-year faculty were positive toward videoconferencing ($M = 3.81$), neutral toward telecourses, and moderate to very negative toward audioconferencing ($M = 5.17$). These results suggested that four-year faculty receptivity to videoconferencing may be related to its *perceived* similarity with traditional classroom instruction characteristics (e.g., two-way audio and video, interaction, etc).

The overall cumulative mean score on all six attitudinal items toward media/methods was 4.29 ($N = 265$) indicating slightly to moderately negative attitudes toward distance education media. Community college faculty were significantly more positive in their attitudes ($M = 3.69$) for the six media than comprehensive university faculty ($M = 4.27$), who in turn were significantly more positive than research faculty ($M = 4.71$) toward the six media ($F = 11.73$; $df = 2; 47$; $p < .0001$). Finally, the general data revealed that faculty

with positive attitudes towards distance education had greater experience and familiarity and corresponding positive receptivity toward distance education media and methods.

Open-ended question data revealed that 52% (66% responded) liked the general concept of distance education although 37% provided qualified answers and 15% were implicit. Thirty-two percent did not like the general concept of distance education. Forty percent of these respondents had concerns about the quality of teacher-student interaction. This suggested that traditional face-to-face instruction remains the standard for assessing alternative delivery systems and technological delivery systems in general.

Twenty-eight percent of respondents answering the first question cited the potential benefits of distance education to increase access to higher education. Moreover, those faculty with generally receptive positive attitudes toward distance education were more likely to cite the benefits of increased access.

Faculty also indicated other concerns related to distance education instructional quality. These included a preference for classroom instruction (15%), concerns about socialization and affective development (14%), and student access to college study resources (9.6%). Nineteen percent of question one respondents cited administrative, technical, financial, and support service barriers to distance teaching. Other benefits cited were new research settings, perceived cost effectiveness, and broader access to outside experts during instruction.

The second open-ended question asked faculty to respond to "In your opinion, would faculty who participated in distance education at your institution be adequately rewarded? Why or why not?" Forty-five percent answered affirmatively, 37% negatively. Although some faculty felt distance education should be rewarded similarly to other teaching activities, about 50% believed faculty would not be adequately rewarded citing inadequate financial rewards (115), workload concerns (10%), research and publication concerns (85), and distrust of administrators (7%). Considering the positive attitudes of community college faculty to distance education and media methods in

this study, it is surprising that data comparing institutional differences on faculty perceptions of rewards were not reported.

Lastly, faculty were asked "Whether or not (in your opinion) your university makes significant use of distance education methods, should it be doing so?" Sixty-four percent of the 27% who responded stated their institution should be using distance education while 17% said it should not. Many respondents reported similar concerns indicated in the first question relative to institutional barriers and perceived benefits.

The findings from Clark's study revealed some important observations. First, experienced faculty familiar with distance teaching held more positive attitudes towards distance education and related media and methods. This suggested that greater experience may be positively correlated to general receptivity to the concept as well as to specific media and methods.

Second, community college faculty attitudes were significantly more positive toward distance education and related media and methods than their four-year counterparts. Faculty from comprehensive four-year institutions were significantly more positive than their research institution peers. These data suggested that differences in institutional mission, faculty reward structures, normative instructional activities, and general institutional culture cumulatively affected faculty attitudes toward distance education. For example, the fundamental mission of community colleges is teaching whereas research institutions historically have given greater value to research and scholarship. These underlying differences may align themselves divergently with faculty receptivity to distance teaching.

Third, the importance of departmental chairpersons' attitudes toward distance education may influence faculty receptivity in the future at all institutions. These chairpersons can leverage resources, define equitable workloads, and serve as advocates at the unit, college, and institutional levels for distance teaching. Finally, female faculty comprise a growing proportion of faculty across higher education and their positive

receptivity toward distance teaching may play an important role in institutional growth of distance teaching.

Gehlauf et al. (1991) examined faculty perceptions of the effectiveness of various instructional methods used for interactive television teaching. The researchers stated that their basic premise was "that fundamental differences exist between interactive television instruction and classroom instruction and that these differences need to be addressed in research and training" (p. 21).

The Ohio University two-way audio-video interactive television system originates in Athens with broadcast capability to five regional campuses. Subjects for this study included all OU faculty who had taught at least one interactive television course (N = 25). Using a Likert-type survey instrument, 15 faculty responded (60%). Representing nine academic departments, the number of interactive courses taught ranged from one to six with a mean of 1.33.

The survey instrument was designed to gather data on several dependent measures. First, the frequency of designated instructional methods for interactive television teaching were investigated. Participants rated six instructional methods: (a) lecture, (b) notes written by the instructor during lecture, (c) group discussion, (d) overheads, (e) slides, and (f) videotapes. A five point bipolar scale was used for participant ratings (1 = Infrequently Used to 5 = Frequently Used).

Additionally, the instructors identified and rated seven other instructional methods (video discs, data, student presentations, maps, small groups, individual conferences, and demonstrations) used in ITV instruction under the survey item designated "other." The second measure asked faculty to rate the perceived effectiveness of these 13 ITV instructional methods (1 = Not Effective to 5 = Very Effective).

Open-ended questions were administered to obtain faculty data on the third, fourth and fifth measures. The third measure assessed how ITV affected faculty modifications to the instructional process. The fourth measure asked the faculty member to describe what

he/she should do to enhance the quality of ITV instruction. Measure five asked respondents to describe what an instructor should not do in an ITV course.

The final section of the survey asked participants to rate the need for a ITV training program (1 = Strongly Disagree to 5 = Strongly Agree). The last open-ended question asked faculty to identify what should be included in a ITV training program for faculty.

The results revealed that the most frequently used ITV instructional methods by faculty were lecture ($M = 4.13$), group discussion ($M = 4.00$), overhead lecture notes ($M = 3.85$), and overhead transparencies ($M = 3.73$). Respondents reported that the other nine instructional methods were used infrequently. All instructional methods in this study were equally used in the regular classroom setting. The four most effective instructional methods were lecture ($M = 3.92$), videotapes ($M = 3.83$), overheads ($M = 3.75$), and slides ($M = 3.50$).

Twenty-seven responses were provided to the first open-ended question about changes in instructional presentation from regular classroom instruction to ITV instruction. Overall, participants reported a reduction in variety of classroom interaction activities and felt a need for better organization and planning for ITV instruction. Revision of audio-visual materials and reducing physical mobility were other changes identified by faculty.

Fifty-six responses were generated to what instructors should and should not do in an ITV course. Faculty cited the essential importance of maintaining interaction (instructor-student and student-student). Faculty suggested that learning the names of remote-site students, developing effective and timely feedback to students, and minimizing alienation of distance learners. Course planning and organization, review of audio and visual material quality, pre-prepared handouts, and the comfort level with technology were also identified "should" for ITV instruction.

Faculty strongly agreed ($M = 4.33$) there was a need for a faculty ITV training program. Twenty-nine responses addressed "What needs to be included in a training

program for faculty?" The data revealed that the most immediate concern for faculty was on having greater familiarity and practice with the technological equipment. Pedagogical issues included more training for facilitating interaction (e.g., hands-on activities, role playing, etc.). Faculty also desired training in preparing audio-visual materials and working effectively with technicians and site coordinators.

The comparative findings between actual teaching behaviors and faculty perceptions about effective teaching practice created a dichotomy. Faculty tended to rely on traditional classroom approaches (e.g., lecture, overhead notes, group discussion, etc.) even though they rated audio-visual methods as more effective. Although instructors indicated traditional instructional methods were not effective in ITV instruction, they continued to use them. These findings were consistent with other studies (Denton & Clark, 1985; Dillon et al., 1991). Further, they suggested that ITV faculty training programs must incorporate alternative approaches that facilitate interaction through blended instructional approaches and planning. Traditional approaches such as lecture, overhead notes, and group discussion were, in fact, effective for ITV teaching when integrated with audio-visual presentations, slides, and videotapes. Moreover, although faculty from this study acknowledged the importance of site facilitators for maintaining student interaction and coordinating course logistics, it was equally clear that the use of site facilitators for off-line instructional purposes was not identified.

Faculty recognized that more systematic planning and organization is required for ITV instruction. Dillon & Walsh (1992) asserted that more effective planning and organization enhance not only ITV instructional effectiveness but traditional classroom instruction as well. Use of the lecture format, reduced mobility, and limited audio-visuals created the "talking head" syndrome in ITV instruction. Despite using traditional approaches, faculty in this study recognized the need for diversified instructional approaches and using more audio-visual materials to maximize the strengths of television as a visual medium. Faculty predisposition with the technical aspects of ITV suggested more

attention be given to designing training programs that help faculty integrate a variety of available instructional strategies, materials, and learning principles that enhance the teaching process whether through television or other instructional systems.

Faculty Effectiveness

Egan, Welch, Page, & Sebastian (1992) compared student perceptions for three instructional delivery systems on 10 course design and instructor effectiveness variables. The instructional delivery systems were traditional face-to-face class room instruction (N = 154), two-way instructional television (N = 93), and prerecorded video telecourses (N = 267). All subjects were post-bachelor certification students enrolled in a teacher preparation program or graduate students completing a master's degree in special education. All subjects were fully admitted graduate students, all completed the identical instructional activities and examinations, and all courses were taught by regular, tenure-track faculty who had received training for teaching on television.

The ten instructional variables included (a) amount of material covered, (b) level of difficulty, (c) content organization, (d) clarity of content, (e) coherency of instructional activities to course objectives, (f) instructional delivery effectiveness, integration of text and weekly assignments, (g) quality of visual materials, (h) quality of text screens to support instructional delivery, and (i) level of student interest in course. Data were obtained from a Media Evaluation Survey administered at the end of each course. Data were analyzed using a series of one-way ANOVA's at the $p < .05$ significance level. Where overall statistically significant differences among the three means were found using the F statistic, the three pairs of means were compared (post hoc) using Tukey's Standardized Range Test to determine which pairs were significantly different.

The findings revealed significant differences on 6 of 10 dependent variables in favor of traditional classroom instruction compared to instructional television. Significant

differences were found for organization of content, clarity of content, relevance of course objectives, integration of text and assignments, quality of visual materials, and value of test screens.

Significant differences were reported on 8 of 10 variables in favor of traditional classroom delivery compared to telecourse delivery. The two nonsignificant comparisons were amount of material covered and level of difficulty. Comparisons between instructional television and telecourses revealed a significant difference on the value of visual materials in favor of instructional television with no significant differences reported on the other nine variables.

In their comparisons between face-to-face and two-way instructional television, the researchers suggested that the differences may have been due to the "intimacy" associated with face-to-face instructor-student interaction. For example, factors such as instructor accessibility, immediacy of feedback, and instructor monitoring of student behaviors (proximity) may have influenced on-campus students toward more positive instructional perceptions.

The nonsignificant variables, however, provided an interesting paradox. Although significant differences in favor of campus learners were found for presentation delivery and related variables, both delivery systems received comparable mean ratings on the degree to which the courses held student interest. Despite the fact that learners in each delivery system rated the organization, clarity, and relevance of course objectives to class sessions differently, these differences did not affect their ratings of course interest. The researchers concluded that the use of site facilitators in quasi-instructional roles at distant sites may be the most important factor for equalizing on-campus and mediated delivery systems.

This study was limited for several reasons. First, the literature review and theoretical framework could have been more thorough. Sample selection, duration of study, enrollment period, class titles, and sample sizes were virtually absent. Although the researchers acknowledged that the instrument was still under development, validity and

reliability data were unavailable for the Media Evaluation Instrument. The study did provide some useful data on how students perceive course design features by instructors for different delivery systems.

Wergin (1986) gathered data on student perceptions of graduate engineering courses taught face-to-face and via instructional television. Students were asked about their preparation, their views of instructional quality, and the impact of this method of instruction on their learning. Surveys were conducted at the end of fall and spring quarters of television and campus students enrolled in electrical engineering, industrial engineering, civil engineering, and materials science graduate courses. For the eight courses, 75 of the 114 television students (66%) and 94 of the 122 campus students (77%) completed the questionnaires.

Overall course quality was rated positively by both groups with a mean rating of 3.9 (five point scale) for fall and 3.5 for spring. Television students rated textbook quality, reasonableness of workload, and integration of materials lower than campus students. These data, however, must be viewed carefully because the researcher reported no specific information about the survey instrument and questions.

Seventy percent of the television students felt they were receiving an "equivalent education" to the on-campus students. Interestingly, the television students felt the lectures and assignments were too theoretical and lacked practical application. It should be noted that the majority of the television students were older and fully employed as practicing engineers while the campus students were almost exclusively full-time graduate students. Although the researcher did not provide any specific demographic data comparing the campus and television students, these findings are consistent with the expectations of older, experienced adults for practical application of new knowledge (Brookfield, 1986; Knowles, 1983).

Campus students were generally dissatisfied with their experience of sharing their live class with distance learners. Some identified the intrusiveness of the technology. For

example, comments about microphones inhibiting class discussion and interaction, difficulty in reading materials over the television monitor, and the slow and boring pace due to inadequate preparation of television students illustrated the negative perceptions of the campus students. Campus students felt their "live class" and "intimacy" with the instructor were depersonalized by the technology. The campus students felt deprived of the traditional teacher-student interaction process that in this was study clearly impacted by the use of television.

Biner, Dean & Mellinger (1994) reported the results of two major investigations identifying the major dimensions of distance learner satisfaction with live-broadcast, interactive (one way video, two-way audio) televised college-level courses. Using factor analysis to statistically identify common groups of items, the researchers found seven major areas based on the interrelationships among questions from Biner's (1993) Telecourse Evaluation Questionnaire (TEQ).

Seventy-four undergraduate students and 127 graduate students enrolled in 14 courses offered by Ball State University during spring Semester 1992 were surveyed with the TEQ to determine the major dimensions of distance learner satisfaction. The TEQ consisted of 33 questions along with general demographic information. Of the 201 total students, 102 were female and ninety-nine were male.

The TEQ assessed student satisfaction with specific dimensions of interactive telecourses. The TEQ listed the dimensions of questions rather than using subjective wording and each were rated on a five point Likert Scale ranging from 1 = Very Poor to 5 = Very Good.

The results of the 201 questionnaires revealed seven major dimensions of distance learner satisfaction. These included: (a) the instructional effectiveness of the teacher, (b) quality of the technology such as audio, (c) efficient and user friendly course management (e.g., registration, etc.), (d) competence of site facilitators at distant sites, (e) promptness

of material delivery to students and/or sites, (f) the accessibility of student support services, and (g) out-of-class communication with instructor.

The researchers conducted a second confirmatory analysis during Spring Semester 1993 of 72 undergraduate and 105 graduate students enrolled in 13 courses offered by Ball State University. The purpose of this follow-up study was to validate the seven dimensions identified in the study above. The researchers hypothesized that the seven dimensions of the second factor analysis would be consistent with the seven major dimensions emerging from the first study. Their hypothesis was correct and the seven dimensions matched.

This results of this study made a significant contribution to validating common satisfaction concerns among distance learners. The replication of the study a year later to observe consistency of the seven major dimensions further strengthened the practical and theoretical applications for evaluating comprehensive distance education programs and specific areas of learner satisfaction when program changes are implemented. As the researchers suggested, the importance of assessing student satisfaction may lower student attrition rates, increase referrals to other students, increase motivation, and perhaps even improve student learning. These questions need further research yet the strength of this study has practical applicability for all institutions delivering interactive television courses.

Lochte (1992) surveyed 98 students enrolled in six interactive television (ITV) courses through Murray State University to determine student attitudes toward instructional variables, television classroom characteristics, and distance education in general. Courses were offered in mathematics, nursing, accounting, occupational safety, vocational education and motivational theory. Demographic data were also gathered to analyze differences between student groups.

Demographic data provided some interesting results. Seventy-eight percent of the students were over 25 while 22% were in the traditional (18-25) age group. The total group was 52% female and was composed of 66% full-time students. Although the level

of instruction (graduate vs undergraduate) was not specifically identified, the researcher reported 79% were undergraduate. The distribution of campus and distance learners were 46% and 44% respectively.

The aggregate data pertaining to the instructor and course design revealed strong support in favor of the ITV process. Eighty-five percent felt the classes were presented in an organized manner while 91% evaluated the visual aids and graphics as adequate. Ninety-six percent believed the instructor paid attention to the remote site students and 97% said that assignments were returned on time. Perhaps the most important finding was that 92% felt the instructor made an effort to encourage all students to participate in interactive exercises. Overall, student satisfaction with the instructors was very high for all six courses.

How do campus and distance learners perceive their respective classroom settings? Seventy-nine percent felt the television monitors were adequate yet only 55% found it easy to be attentive to the television screen. This was an important finding because gaining learner attention has been shown to be essential in the teaching-learning process. Seventy percent felt comfortable with the microphone system, but only 45% found the audio system adequate for hearing. This finding further supported the importance of audio in making distance education a viable interactive process commensurate with the traditional teacher-learner classroom. Despite these technical limitations, 70% percent believed the classrooms were conducive to learning and 75% stated that ITV allowed adequate student instructor interaction.

General attitudes toward ITV instruction were generally favorable. Sixty-three percent felt they were learning as much as in a traditional classroom, 67% were comfortable with the ITV system, and 69% stated they would take another ITV course. These general findings were consistent with other similar attitude studies of distance learning (Johnson & Silvernail, 1990; Kabat & Fridel, 1990; Pirrong & Lathen, 1990).

The researcher also reported age and gender data. The older adult students were more satisfied with the quality of visual aids, found the classroom more conducive to learning, and felt more at ease with the technical equipment. They were also more likely to say they were learning as well as in the regular classroom. Overall, females were more satisfied with their ITV experience. They expressed a significantly higher level of satisfaction with the instructor's conduct of class and had fewer problems with the technical aspects of ITV, particularly audio quality.

Demographically, those who found the learning environment inadequate were mostly full-time male students at the originating site. Ninety-three percent felt instructor effectiveness was diminished due to technical equipment, 89% found it hard to pay attention to the instructor on television, 83% stated the audio quality inhibited the process, and 48% thought the class was poorly organized.

The research isolated several variable combinations which contributed to student attitudes about ITV. For an ITV environment conducive to learning, the strongest instructor variables were the abilities to organize the courses and to encourage interaction with the students. The strongest classroom variables were the students ability to pay attention to the instructor on the television monitors and to feel comfortable with the system. A classroom conducive to learning in concert with high student-instructor interaction were related to a successful learning experience via ITV. What variables contributed to students enrolling in a subsequent ITV course? According to this study, a combination of classroom interaction, a classroom conducive to learning, and a learning experience similar to the traditional classroom were strongly correlated.

Haynes & Swisher (1992) examined student attitudes toward two-way interactive compressed video instruction in the University of Oklahoma's Master's of Library and Information Studies. The program, consisting of 36 hours of graduate coursework (six required courses and six elective courses), was broadcast from the main Norman campus to the UO's University Center in Tulsa. The researchers identified the typical

Tulsa graduate student as taking an average of five hours per term, fully-employed, 35 years of age, and married.

Student attitudes were examined at both sites using a questionnaire with both open-ended items and closed-end items with order choices using a Likert-type scale (1-5 with 1 low). The survey was administered to 11 of the 19 courses delivered to Tulsa during fall 1989 and spring 1990 terms. Because the researchers provide little specific information about the survey instrument, one can only infer from the results the type of questions comprising the instrument.

The quality of the video receive the highest score with a mean of 3.24 in Tulsa and 3.27 in Norman. The lowest technical ratings were the quality of audio. Mean scores ranged from a low 2.2 to a high of 2.7. In general, student attitudes were negative about most aspects of the compressed video instructional network. An interesting result of this study was that although the students expressed negative attitudes toward the delivery system, these attitudes did not appear to affect their learning. There was some evidence that students adapted and modified their learning style when the media placed different demands upon them.

The Tulsa distance students viewed themselves as separated and isolated from the main campus, the primary focus of attention. Students at both sites identified the factors that most helped them learn were instructor, assignments, and access to library resources -- typically associated with traditional face-to-face learning. The factors hindering performance or perceived performance were poor audio system, slower pace, and lack of interaction with the instructor. Perhaps most important among the findings was that a majority of the Tulsa students stated they wanted no additional courses offered via ITV. When asked if they would recommend ITV to another student, they responded with a mean rating of 1.81.

Moore, Thompson and others (1990) summarized selected research literature on student attitudes and perceptions toward distance learning. Generally, college level courses

were perceived positively by adult learners (Boswell, Mocker & Hamlin, 1968; Christopher, 1982; Hoyte & Fre, 1972; Kruh, 1983).

Smeltzer (1986) examined the effects of electronic communications on the variables of student stimulation, reinforcement, and participation. In determining students' perceptions of the extent to which the quality of teaching/learning process was affected by the television format, the results indicated that audioteleconferencing did not preclude qualitative rich participant interactions. This study was mentioned briefly because the quality of audio either facilitates for impedes classroom interaction televised courses.

For example, in the regular classroom students will immediately ask instructors to repeat questions, explain content and/or adjust pacing. Conversely, the lack of clear audio in televised courses can inhibit student interaction and therefore students must be continually encouraged and reinforced to interject . . . not very natural. Unfortunately, the technical quality may simply de-motivate and frustrate students from participating. Most of us understand these feelings from watching regular television with clear pictures and troublesome audio. In distance teaching the composite result represses natural interaction, immediate feedback, and spontaneous dialogue between teacher and learners.

Davis (1984) found that students generally favor face-to-face delivery and increased face-to-face contact produces more positive attitudes towards the method of instruction. Does this place distance learning at a disadvantage? The research has generally reported no relationship between attitudes toward technology and student performance. Some studies have shown some relationship between attitudes and attrition from distance delivered instruction (Dillon & Walsh, 1992; Moore et al., 1990).

What behaviors do distance learning students perceive as effective teaching strategies for television? Comparing both conventional and television teaching, Haaland & Newby (1984) reported significant differences in the frequency of effective television behaviors. Effective television teachers used student's names, articulated clear course

goals, objectives, and evaluation criteria; strategically used print materials, encouraged interactive discussions among students, and avoided monotone speaking.

These findings arguably are fundamental strategies for effective teaching in any instructional setting. The key differential, however, was that more frequent use in television courses was essential to maintaining a learning environment commensurate with the conventional classroom. The researchers concluded that the delivery system has no effect on students overall rating of the courses or on ratings of instructor's ability.

Hackman & Walker (1990) found that teacher immediacy behaviors (e.g., feedback and expressive vocal quality, etc.) were associated with increased learning. Factors that were correlated with student satisfaction included individualized feedback, using student names, praise, smiling, and vocal variety. Student satisfaction increased as personalized contact with instructor increased. Unsurprisingly, Richmond, Gorham & McCroskey (1987) correlated many of these instructional strategies to improved cognitive learning in a traditional classroom setting.

Surveying students in satellite courses delivered via satellite by the University of Victoria, Collins & Murphy (1987) reported the following successful instructional strategies: good voice quality (clear audio), animated body language, eye contact with students, organized and clear delivery, enthusiasm, and adapting pace of instruction to student needs.

Maloy & Perry (1991) identified instructor communication style as the key instructor competency, particularly the use of intentional strategies to encourage interaction and using body language to maintain contact with students. Burge & Howard (1991) reported that the importance of audio and knowledge of basic learning theory translate into instructional strategies that facilitate quality interaction. Effective competencies were using silence to encourage critical reflection and analysis, personalizing interaction with students, developing prearranged response sequences, direct questioning techniques, positive

feedback, summarizing student responses to confirm understanding and course planning, and reinforcing activities.

Shaeffer and Roel (1985) attempted to empirically determine teaching behaviors students consider necessary in television and conventional classroom teaching. Utilizing group interviews and questionnaires to obtain student data, distance students gave higher course ratings on instructor clarity, enthusiasm, organization, pacing and encouraging student participation and interaction. These variables appear endemic to all good instruction yet are accentuated in distance teaching.

Consistent with previous research (Dillon & Walsh, 1992; Gilcher & Johnstone, 1989; Johnson & Silvernail, 1990; Parer, 1988), these variables may in fact improve traditional instruction when adequate attention, organization, and planning are given to course design. Moreover, faculty who adapt their teaching to accommodate distance students may simultaneously improve their instructional effectiveness in conventional classroom settings. Does distance teaching have the unique capacity to improve campus-based teaching? This question will be revisited later.

Denton and Clark (1985) examined the presentations of seven medical faculty in the College of Medicine at Texas A & M University over a nine-month period. Sixteen systematic observations assessed two-way interactive television transmitted from the VA Hospital in Temple, Texas, to College Station. Sixteen observations were conducted of live face-to-face instruction on the central campus in College Station.

The purpose of the study was twofold. First, to compare instructional strategies of faculty using television and those teaching face-to-face. Second, to collect student data on their attitudes toward instructional television. Faculty participation was voluntary thereby limiting generalizability of results due to non-systematic sampling. The researchers used the Classroom Observation system (COS) which was developed to gather low-inference data on instructor moves during class.

For assessing student attitudes, the Student Perceptions and Assessments of Interactive Television (forms A,B,C) and Student Perceptions and Assessments of Interactive Television Instructors Summative Ratings were developed. Using the Spearman-Brown split-halves reliability test, coefficients for Forms A, B, & C were calculated at .96, .93, and .94 respectively. The resulting reliability coefficient for the Summative instrument was .75. Data were gathered for the 32 observations between March-November 1982 using the above instruments.

The results for instructional patterns revealed that faculty tended to use similar instructional strategies whether teaching on television or in the conventional classroom. Comparisons were conducted on seven instructional events: (a) reviewing prerequisites, (b) providing objectives to learner, (c) presenting stimulus material, (d) providing learner guidance, (e) performance by learner, (f) learner feedback, and (g) assessing performance during class. Chi squared analysis revealed significantly higher frequency of time intervals for televised sessions on only one variable: presentation-stimulus materials.

Student perceptions of the quality of information presented via television, instructor comfort, and use of visual aids to be satisfactory. Data from the Summative Ratings instrument indicated students favorably viewed the technical quality of television, amount of information presented, and instructor presentation styles. Conversely, mixed to slightly negative assessments were found for ability to concentrate, opportunities for asking questions, and organizational improvement of course using television.

The data on similar instructor strategies have been reported in other studies (Dillon et al., 1991; Gehlauf et al., 1991). Until recently, few if any institutions advocated nor offered specialized training for television teaching. Subsequent studies previously cited in this review assert that the frequency and instructional design strategies may require greater attention and planning for televised teaching. The accentuated emphasis on proven instructional strategies evolving from traditional classroom pedagogy may re-focus greater attention on re-employing these strategies with greater precision in

conventional instructional settings. Distance teaching may play a greater role for improving instructional effectiveness on campus rather than the reverse assumption. (Dillon & Walsh, 1992).

Barker & Dickson (1993) reported the findings of a study examining teacher attitudes toward satellite delivered inservice mathematics instruction for Illinois educators. Ten one-half hour instructional programs, five for teachers in grades 5th-8th and five for teachers in grades 9th-12th were broadcast between March-May 1993. Serving 16 school districts, 199 teachers viewed the inservice broadcasts. The programs were also redistributed via local cable for viewing.

Program topics and objectives were based on standards set by the National Council of Teachers of Mathematics (NCTM). Teachers in grades 5th-8th received inservice training on number sense and number relations, patterns and estimating, algebra, statistics, geometry, and measurement. Teachers in grades 9th-12th received inservice instruction on problem solving, mathematics as communications, mathematics as reasoning, algebra, functions, probability, and conceptual underpinnings of calculus.

Step-by-step written lesson plans were provided for each teacher along with recommended classroom activities. Each school site was granted permission to make copies of lesson plans and to videotape broadcasts for subsequent review. Based on the combined total of 5th-8th and 9th-12th teachers, 36.6% watched the programs at their home school, 41.5% at another nearby school, and 21.9% on home videotape or cable.

Using a Likert scale survey instrument, 79.8% agreed that staff development programs offered via ITV at their local school were a "good" resource for teachers. Three-fourths (73.9%) stated that they preferred inservice via distance learning rather than traveling to a university, education service center or some other location away from their local community. Two-thirds (67.6%) felt it was important that distance learning programs be interactive between students and teacher. Generally, participating teachers were very positive about the "convenience" factor of distance learning inservice.

Seventy-five percent indicated additional programs should be scheduled and offered on a routine basis via distance learning. Almost all teachers (93.4%) stated they were highly attentive during inservice broadcasts. Eighty-five percent felt program content was well organized and 79.7% stated audio quality of telecasts were clear. Despite these positive data, only 56.1% felt that the TV teacher was able to make them feel a part of the distance learning classroom.

What did teachers rate as the most important factor related to quality and applicability in their own classrooms? Fifty eight open-ended responses stated that the quality of written materials was crucial to the inservice programs. The 30 minute formats offered from 4:00 - 4:30 p.m. were rated highly by participants. Participating teachers expressed that not having to return to school later in the evening was more attractive after a full-day of teaching. Some participants felt the pace of instruction was too fast and yet acknowledged that having videotapes for future viewing was an excellent resource.

The researchers summarized the following conclusions and recommendations from their findings. First, distance delivered inservice was cost effective. A total of 199 teachers were served at a total cost of \$40, 611 (\$204 per teacher). The researchers did not, however, provide any information about how they determined cost effectiveness and whether they drew this conclusion based upon comparative data. Second, the synthesis of live broadcasts, reference video tapes, and well-prepared written materials collectively created a positive learning package that was interactive and had both theoretical and practical relevance.

Third, rural schools represented the majority of participating sites. Faced with resource constraints, distance learning inservice was a viable, cost effective approach to staff development in isolated rural areas where on-site staff development was cost prohibitive. Finally, the researchers suggested that alternative options to view inservice programs (e.g., local cable, satellite, recorded videotape, etc.) either at home or at school was a trend that will likely continue in the future.

Student Performance

Comparative studies examining student performance between campus-based instruction and ITV have consistently reported no significant differences in student achievement. Schramm (1962) summarized the findings of 393 studies comparing instructional television with classroom teaching in schools and colleges. He wrote:

Schools and colleges have been able to teach virtually every subject effectively by television. The conclusion is that the average student is likely to learn about as much from a TV class as from ordinary classroom methods; in some cases he/she will learn more and in some less, but the over-all verdict has been, "no significant difference." (p. 156)

Regarding college level studies (n = 100), Schramm cited 84 where no significant differences were found between distance learners and campus-based learners. Thirteen studies reported significant differences in favor of campus-based student performance. Conversely, three studies reported significant differences where ITV students produced higher performance. Chu & Schramm (1975) reported similar results as Schramm's earlier study.

Perhaps what is remarkable about Schramm's review was that in 1960 it appeared that instructional television was well on its way to being adopted by educational institutions at all levels. The critical limitation in Schramm's studies was that ITV was not "real time" interactive like today's systems. The National Defense Education Act of 1958 had provided financing for many ITV facilities and general receptivity toward technological innovations was high (Koontz, 1989).

Twenty five years (1960-1985) passed before instructional television again was commanding attention in educational circles as an effective teaching and learning medium. There was considerable ITV use during this period and yet the promise of instructional television (ITV) never reached its earlier expectations. ITV is not a new phenomenon . . . what is new is its increasing use and adoption in colleges and universities during the last

half of the 1980's. The reasons for this are due to many factors beyond the scope of this study.

Contemporary literature in distance learning (1985+) has similarly reported comparable achievement between campus learners and distance learners at the K-12 and undergraduate levels (Clark, 1987; Clark & Verduin, 1989; Ellis & Mathis, 1985; Moore et al., 1990; Mount and Walters, 1985; OTA, 1989; Whittington, 1987). There are, however, exceptions to these findings. Grimes, Nielsen & Niss (1988) reported that two distance learning groups taught via ITV achieved significantly higher scores in undergraduate economics instruction than their on-campus counterparts. Ritchie & Newby (1989) also reported significantly higher performance by the distance group taught via ITV. In summary, researchers over the past thirty years have consistently reported comparable achievement between campus learners and ITV students.

Schramm (1962) wrote:

... under some conditions and used in some ways, instructional television can be highly effective and that the pertinent question is no longer whether a teacher can teach effectively on television, but rather how, when, for what subjects, and with what articulation into the classroom activities instructional television can most effectively be used. (p. 165)

Chu & Schramm (1975) stated that "under appropriate conditions, students can learn from any instructional medium, whether it is television, film, radio, language, lab or programmed instruction" (p. 86). Providing an insightful yet satirical commentary, Clark (1983) wrote: "The best current evidence is that media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition" (p. 445).

Summary

The purpose of this review was to examine three major areas of distance education research related to faculty attitudes, instructional effectiveness and student performance. This review demonstrated the complexity of issues related to faculty adoption in concert with student expectations for instructional effectiveness via telecommunications delivered courses. Although it was acknowledged that distance education effectiveness is affected by many other issues such as institutional leadership, student support services, technical quality, and fiscal resources, the centrality of faculty remains at the forefront of the advocacy process. All program and administrative issues become secondary without faculty adoption and participation in the distance education enterprise.

Chapter 3

Bridging the Gap: Distance Learning and Academic Policy

Donald J. Olcott, Jr.

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Introduction

The development of advanced telecommunications systems has transformed the capacity of higher education to deliver educational and training programs to students (Clark & Verduim, 1989; Cross, 1985; DeWees, 1988; Keegan, 1986; Kelleher & Mayor, 1990; Moore, 1987; Morse & Julian, 1989; U. S. Congress, OTA, 1989; Willis, 1989). Today, colleges and universities are using a broad range of telecommunications media to transcend geographical boundaries and increase educational access for students. Common transmission technologies include satellite, microwave, ITFS, fiber optics, audio conferencing, audiographics, cable, and other computer information systems (Olcott, 1988; U. S. Congress, OTA, 1989).

The increasing number of institutions engaged in distance learning has created a need for more flexible and responsive academic policies. Moreover, the focus on academic policies to accommodate distance learning has been overshadowed by the emphasis on technology. Willis (1989) suggests that it has taken several years of exploration and utilization by administrators and faculty to develop confidence in technological systems to warrant greater attention on academic policy issues. Policy issues related to distance learning include residency, academic standards, evaluation (faculty, student, and program), faculty compensation, articulation, copyright, royalties; release time, allocation of instructional resources, collective bargaining and related legal issues, promotion and tenure, student and faculty support services, and inload vs. overload teaching assignments (Olcott, 1989; Willis, 1989).

Many administrators and faculty governing bodies, recognizing long-standing academic traditions, have been resistant to modifying existing policies for distance learning. Despite this resistance, distance learning has become a critical component of the extended learning mission of many colleges and universities. Institutions are implementing policy changes that are responsive and sensitive to the unique educational needs of off-campus students.

This paper is based on three basic assumptions essential for creating successful distance learning programs. These are:

1. Adapting and revising academic policies to serve distance learners should accompany the development of extended learning programs.
2. Distance learning is a multi-instructional delivery system within a broader extended learning framework.
3. Faculty participation and support are critical for developing effective distance learning programs (Grossman, 1987; Strain, 1989).

An Integrated Instructional Framework for Extended Learning Programs

As more and more colleges and universities develop extended learning programs, the need to integrate instructional delivery systems will increase (Barker, Frisbie, & Patrick, 1989). The one indisputable trend for the 1990's is the demand for extended programs that provide an alternative path toward completing a college degree (Mayor, 1990).

Distance learning is one delivery system that will play a key role in meeting this demand. For most institutions, however, the development of entire degree programs via telecommunications is neither realistic nor desirable. Many advocates will draw attention to those institutions, most notably the National Technological University (NTU), that are delivering entire degree programs via technology (Mays & Lumsden, 1990). Without underscoring the unique contributions of these programs, the mainstream of American higher education will resist technology based degree programs. In a recent interview, Dr. Ray Steele, President of the United States Distance Learning Association (USDLA), was asked about the development of general education programs equivalent to the NTU model.

He states:

There are 3200 institutions which are very keen on staying in business. We may gradually develop something that may provide a degree in basic education areas such as liberal arts, but it has to be done carefully. I'm not sure that it is something that even today, while its time may already be here, that we're going to get that kind of acceptance. (Steele, 1989, p. 7)

Dr. Steele's assessment is accurate, particularly for distance learning in higher education.

Underlying his comments, he suggests that the capacity to deliver courses via technology is not synonymous with the decision to implement actual delivery. He further states:

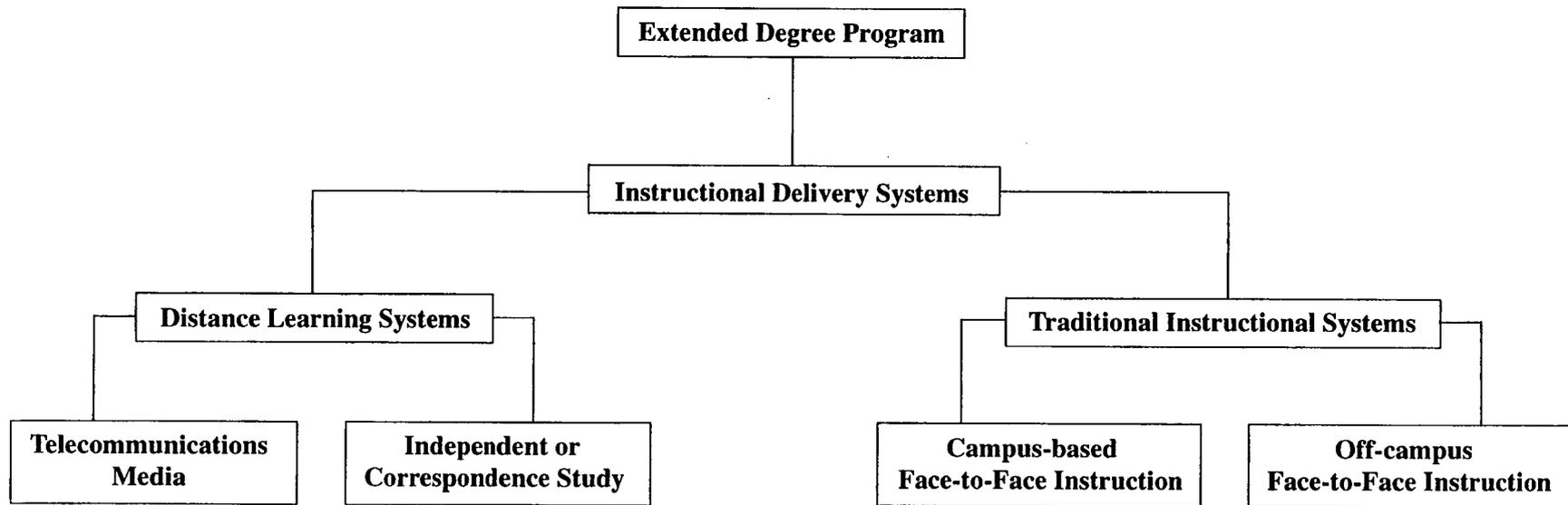
Through distance learning, we can share some of those resources that make it economic to do so. That is the absolute argument in offering a degree by distance education. The needs are not necessarily for a new degree based program, but for local delivery for some of the degree and national or regional resources for some of the degree. We deliver an MBA totally by television throughout the state of Indiana. It's approved, but we still have a need for human contact at the sites. Some of that human resource localization simply goes with the turf of education. (Steele, 1989, p. 8)

Integrated Delivery Systems for Extended Learning Programs

Advocates of distance learning should consider an integrated instructional framework for extended programs that combines distance learning instructional systems with traditional instructional delivery systems. More importantly, this framework provides continuing educators with a philosophical base to facilitate adoption of distance learning programs among faculty and administrators. Figure 3.1 provides a synthesis of four instructional delivery systems. These include: courses delivered via telecommunications media, independent or correspondence study, campus-based face-to-face instruction, and off-campus face-face instruction.

There are several advantages to this approach. First, it preserves the qualitative standards of face-to-face academic instruction through its on-campus and extended campus components. This is particularly appealing to traditional campus-based faculty. Second, it

Figure 3.1
An Integrated Instructional Framework for Extended Degree Programs



Notes:

- 1. Telecommunications media:** Satellite, microwave, ITFS, fiber optics, computer, audio teleconferencing, cable, etc.
- 2. Campus-based face-to-face instruction:** Designed to meet degree residency requirements
- 3. Off-campus face-to-face instruction:** Instruction at satellite campus or other off-campus location
- 4. Transfer coursework from an accredited institution may apply toward degree requirements**
- 5. Off-campus face-to-face also may be classified as a distance learning instructional system**

increases student choices in selecting courses at convenient times and locations. Third, this framework allows for gradual integration of telecommunications delivered courses through more effective planning, coordination, design, and delivery. Fourth, well designed correspondence or independent study courses provide self-directed learning opportunities for students. Finally, the integrated approach creates optimum communication channels among and between faculty, students, and the institution.

This approach gives institutions maximum flexibility for developing extended degree programs without dependency on a single delivery system and without compromising traditional face-to-face instructional systems. The proportion of coursework delivered through each system will vary across institutions and be dependent on mission, available human and fiscal resources, institutional innovativeness, and others. Each delivery system is complementary to the other and effective instructional and administrative strategies can be transferred across each system. The problems associated with over-emphasizing new technology are brought into an equilibrium that fuses proven traditional academic instructional systems with new learning systems.

Academic Policy Issues for Distance Education

Given the diversity of postsecondary institutions one would expect differences in academic policy. For example, community colleges generally have more flexible policies for off-campus students than the typical four-year research university (Cohen & Brawer, 1989). Differences in mission, academic traditions, educational philosophy, and resources account for many of these differences. Moreover, these differences affect institutional responsiveness to modifying existing policies for distance learning.

The increasing demand for extended degree programs suggests that flexible distance learning academic policies at four-year institutions will become essential for program delivery. Although community colleges are using telecommunications to deliver associate

degree coursework, their extended mission is usually restricted to the local region and community. Conversely, four-year institutions with regional and statewide missions have the capacity to deliver upper-division coursework leading to a baccalaureate degree, as well as graduate coursework that may apply towards a graduate degree. Unsurprisingly, community colleges are attractive locations for the delivery of extended upper-division and graduate coursework from four-year institutions.

Distance learning creates a variety of academic policy issues for colleges and universities. Modifying existing policies to effectively facilitate distance learning delivery via telecommunications varies across institutions due to differences in mission, scope, faculty and administrator support, fiscal resources, and academic traditions. Although institutional diversity determines policy priorities for facilitating distance learning, common issues have emerged that are endemic to most institutions. These include: academic quality and support services, faculty release time and instructional support, residency, inload vs. overload teaching assignments, and promotion and tenure.

Academic Quality and Support Services

If there is one universal concern among faculty, administrators, and students, it is the quality of distance delivered courses. How can academic standards be ensured for distance learning courses that are commensurate with on-campus instruction? Although research indicates comparable academic achievement between on-campus and distance learners, concerns still exist (OTA, 1989). Practitioners agree these standards should apply equally to on-campus face-to-face instruction and off-campus instruction. However, questions of how these standards will be maintained for distance learning courses provoke considerable debate.

For example, library services are considered essential to the learning process and easily accessible for campus-based students. How can this access be provided to distance

learners? Alternative arrangements with a local institutional library or additional written resources from faculty may be necessary to ensure access to distance learners.

Increasingly, electronic mail and data base systems will allow distance learners to access the campus library. Other quality related services such as advising, instructor-student communication, examinations, grading, and timely receipt and return of student assignments are essential to maintaining academic quality.

Faculty Release Time and Instructional Support

Distance teaching requires an extensive time and resource commitment to create or modify a course for delivery via telecommunications. If this support does not exist, faculty will resist distance teaching assignments. Academic units unable to provide this support, for whatever reasons, should not engage in distance teaching.

Residency

Residency typically refers to the number of credit hours a student must complete in residence (on-campus) to satisfy degree requirements and definitions of courses that carry resident credit status. In both cases, institutions usually require that resident credit courses be taught by regular campus faculty. Undergraduate degree requirements commonly require that one year (45 quarter or 30 semester hours) be completed in residence.

Although requirements vary for graduate degree programs, there is usually a total resident credit requirement that may include a specified number of consecutive quarters a student must be enrolled. The consecutive enrollment requirement may also require a minimum number of hours a student must be enrolled. Interestingly, doctoral residency requirements are often less stringent than masters requirements.

The first dilemma for institutions is determining how residency and requirement to accommodate off-campus students or do we modify existing requirements that preserve

the academic integrity of residency and yet enhance program accessibility to students? This is a philosophical question that unfortunately has no easy answer.

Advocates of residency stress the total learning experience provided by the on-campus educational process, particularly the availability of academic resources, involvement in extracurricular activities, and interaction among peers and faculty.

Advocates of extended degree programs suggest that this requirement is a barrier for placebound students and that for older adult students, the degree is the primary motivation.

Advocates of distance learning as a component of extended degree programs must answer similar questions. For example, do distance delivered courses carry resident credit status? If so, how many hours are applicable toward the total residency requirement? Must distance delivered courses be taught by regular faculty to obtain resident status?

Conversely, if distance learning courses do not carry resident status, how do they apply? Are they viewed similar to transfer coursework from other institutions. If taught concurrently, do on-campus students receive resident credit while off-campus students do not?

Institutions must clearly define whether distance learning courses carry full resident credit. Once this is defined, the issue of total hours applicable towards an extended degree can be addressed. This issue will continue to create a dicotomy for extended learning advocates and proponents of on-campus residency.

Inload vs. Overload Teaching Assignments

Distance teaching requires academic unit administrators (chairpersons) to consider additional factors regarding faculty teaching assignments. Inload assignments normally refer to the faculty member's regular teaching, research, and service responsibilities. For tenure track faculty these assignments are established formally and informally by unit and institutional promotion and tenure guidelines.

Overload assignments are teaching, research, and/or consulting duties beyond the faculty member's regular duties. Overload or out-of-load activities usually require approval by the departmental chairperson and academic dean. Similarly, inload and overload assignments are often influenced by individual faculty contracts, collective bargaining agreements, faculty handbooks, and departmental and institutional policy guidelines. Moreover, institutions and academic unit definitions of inload and overload vary, making advocacy of one over the other difficult for distance teaching assignments.

What factors should departmental chairpersons consider in determining inload and overload faculty distance teaching assignments?

- a. Do overload distance teaching assignments interfere with the faculty member's inload duties? Faculty handbooks, individual contracts, and collective bargaining agreements usually stipulate that outside activities shall not interfere with normal faculty duties.
- b. How does distance teaching support the mission of the unit and institution? Is distance teaching applicable to promotion and tenure? Inload distance teaching assignments suggest that those responsibilities are valued by the unit and supported with available fiscal and human resources, faculty release time, and other incentives. Does distance teaching carry equal priority and credibility within the academic unit as traditional faculty assignments?
- c. Are faculty instructional and related support services equally available for inload and overload teaching assignments? Woudstra and Powell (1989) remind us that distance teaching requires more preparation time than regular instruction. Faculty training, instructional design, materials development, and course logistics are time consuming activities. Departmental chairpersons will likely resist approval of overload distance teaching if they are unable to provide support support and incentives at a level equitable with inload assignments.

Promotion and Tenure

To what extent will distance teaching apply towards faculty promotion and tenure? Most faculty will pursue activities that contribute to professional advancement. In academia, professional development is often synonymous with promotion and tenure. Embarking on an endeavor such as distance teaching without providing appropriate recognition towards promotion and tenure will deter faculty participation. Institutions and individual academic units may need to modify existing criteria and delineate how distance teaching will apply towards promotion and tenure.

A number of additional policy issues have emerged that must be considered to ameliorate unnecessary barriers to developing effective distance learning programs. These include new interpretations of copyright law, locus of program control, student support services, accreditation, use of adjunct faculty, collective bargaining, and others. Prudence suggests that institutions which address these issues from the outset will enhance their capacity to develop and implement quality based distance learning programs.

The Advocacy Process

Facilitating academic policy revision is affected by the level of acceptance and adoption of distance learning across the academy. Institutional and faculty policy bodies must support the efficacy of distance learning as an effective instructional delivery system before they will revise existing policies. How do distance learning advocates increase acceptance and facilitate policy revision? The following commentary discusses two essential components of this process: (a) diffusion of innovations and (b) institutional academic culture.

Diffusion of Innovations

Rogers' (1983, p. 11) defines an innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption." Distance learning is new to many administrators, faculty, and students whose only frame of reference is traditional academic instructional models. Many distance learning advocates have focused on a specific telecommunications technology as the innovation rather than the practice or process of teaching and learning from a distance. Although these technologies are essential to distance learning, change agents must consider the broader context of distance learning when communicating with faculty, administrators, and students. Institutional policies, student and faculty support services, faculty incentives, and academic quality often emerge as the critical issues for policymakers, faculty, and students.

The practical implications of viewing distance teaching and learning as an innovation can be better understood by examining innovation attributes that affect adoption and acceptance. Rogers' (1983) has identified five attributes of an innovation. These include: relative advantage, complexity, compatibility, trialability, and observability. Distance learning advocates must possess a clear knowledge and understanding of these to effectively communicate the efficacy of distance learning to faculty and administrators.

The advantages of distance learning often provoke considerable debate. Advocates of distance learning will emphasize such benefits as increasing access, potential fiscal savings, and instructional flexibility for serving adults at convenient times and locations, and empirical research demonstrating comparable academic achievement between campus and distance students. Conversely, institutional administrators and faculty have expressed concerns regarding instructional quality, providing faculty and student support services, accreditation, residency, and other traditional campus issues. Advocates will facilitate adoption and acceptance of distance learning if they address these issues rather than overemphasize the potential advantages.

Innovation complexity is a second attribute that affects adoption. Distance learning requires extensive planning, coordination, and logistical support to ensure effective delivery. Technical systems must work and faculty must be able to focus on teaching and students on learning. Making the process of distance teaching user-friendly for both faculty and students is critical for facilitating adoption.

A third attribute, innovation compatibility, has tended to be associated with technological hardware. However, distance learning's compatibility with existing academic values and traditions is also part of innovation compatibility. Traditional instructional values such as traditional face-to-face instruction, opportunities for instructor-student-peer interaction, access to academic and related support services, and compatibility with academic policies and standards must be addressed by advocates.

The observability and trialability of innovations facilitate the development of pilot projects to assess instructional effectiveness. Distance learning pilot projects provide administrators and faculty with normative and summative evaluation data for improving program practices, reviewing fiscal costs, and determining the feasibility of implementing a comprehensive distance learning program.

The five attributes of innovations should be considered when advocating the adoption of distance learning and for revising existing academic policies. When viewed from the eyes of the academy, the attributes of complexity and compatibility must be resolved for distance learning to be adopted as an effective instructional delivery system.

Institutional Academic Culture

As a model for facilitating change, Roger's theory is predicated on a thorough knowledge and understanding of the environment where change will occur. This is commonly referred to as "academic culture" in colleges and universities. The following list delineates essential elements of academic culture that are necessary for advocates to

facilitate adoption of distance learning and modification of existing academic policies.

1. Advocates must understand the broader institutional mission and how each college "fits" into that mission. How can extended learning and the use of telecommunications media enhance institutional and unit missions?
2. Develop a comprehensive understanding of institutional and system procedures for the approval and implementation of extended programs. Do these procedures address the use of telecommunications media? What policymaking bodies are responsible for program review and how long is the normal review process? What informal and unwritten rules affect this process?
3. Examine promotion and tenure guidelines for the institution and individual academic units. Does distance teaching carry equal weight towards promotion and tenure as traditional faculty assignments? Do academic units provide incentives and support services to distance teaching faculty? How do collective bargaining agreements and other contractual documents affect faculty distance teaching assignments?
4. How are decisions made on your campus? Who has the power and influence?
5. Develop a thorough knowledge of available faculty and student support services. These services are critical for maintaining academic quality in extended educational programs, regardless of the instructional delivery system.

Summary

Distance learning creates unique opportunities for colleges and universities to extend their academic programs. The increasing demand for extended degree programs will require institutions to restructure existing academic policies to accommodate off-campus students. Conversely, distance education programs must respect the traditional values and practices of the academy for developing programs where traditional and new learning systems are mutually compatible. Integrated delivery systems that fuse distance

learning with traditional instructional systems will facilitate extended programs that maintain recognized standards of academic quality. Adapting academic policies to accompany instructional uses of technology will enhance program delivery and benefit faculty, students, and the institution.

Chapter 4

Policy Issues in the Statewide Delivery of University Programs by Telecommunications

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Olcott, D. J. (1992). Policy issues in statewide delivery of university programs by telecommunications. The American Journal of Distance Education, 6, (1), 14-26.

Introduction

The growth of telecommunications networks has expanded the capacity of universities to deliver extended degree programs to off-campus students (Barnard, 1990; Major & Shane, 1991; Mayor, 1990; Mays & Lumsden, 1990; Moore, 1987; Niemeyer, 1985; Olcott, 1991; U. S. Congress, OTA, 1989; Willis, 1989). Today universities are building partnerships with business, public schools, government agencies, and other postsecondary institutions to extend their academic programs to new student markets. Telecommunications is redefining the boundaries of educational access. This technological transformation has provided the impetus for policy makers to engage in statewide planning and to reassess traditional academic and administrative policies (Dively & McGill, 1991; Olcott, 1991; Willis, 1989). Moreover, statewide telecommunications networks have accentuated a growing need for "restructuring the academy."

Through statewide planning and design, telecommunications media can increase learner access by facilitating interinstitutional program delivery that emphasizes resource sharing, program articulation, integration of alternative instructional delivery systems, and academic standards and support services commensurate with campus-based degree programs (NUTN, 1991; Olcott, 1991). This paper examines the role of a statewide telecommunications network for increasing student access to university degree programs. Major policy issues, a framework for interinstitutional program design, and recommendations for practice are examined.

The present discourse is predicated on four major axioms governing the effective use of telecommunications to increase educational access to university degree programs.

They are:

1. The capacity of an institution to effectively participate in a statewide telecommunications network is dependent on the successful resolution of administrative, faculty, student, fiscal, and support issues at the institutional level.

2. Program curricular approval and accreditation review of extended degree programs must precede program delivery. Extended degree programs require institutional curricular approval and subsequent approval by state system administration and a state board of higher education or equivalent authority. Implementing an extended degree program is considered a "substantive change" in the institution's mission and requires review and approval by the governing accrediting agency (Northwest Association of Schools and Colleges, NWASC, 1988).
3. Revision of existing institutional academic and administrative policies should accompany the development of extended degree programs (Olcott, 1991). Revising institutional policies to increase student access to extended degree programs requires curricular review and approval by an institution's policy-making bodies, including the Curriculum and Graduate Councils of the Faculty Senate, the Provost or chief academic officer, and system-wide administration.
4. Telecommunications instructional delivery systems exist within an integrated extended learning framework. Telecommunications systems complement traditional instructional delivery systems and most programs are a synthesis of these systems (Olcott, 1991).

These thematic axioms suggest that program approval, academic policy revision, and accreditation review are necessary prerequisites for successfully extending academic degree programs and enhancing student access. It is the delivery of an approved academic degree program rather than the use of telecommunications that mandates these processes.

The Political Context of Policy Making

The proliferation of statewide telecommunications networks is not solely a result of the educational access ideal. Rather, there are several factors that have attracted the support of policy makers at all levels. For example, potential fiscal savings, resource sharing, transcendence of geographical boundaries, consolidation of telecommunications activity,

workforce retraining, economic development and globalization, programs for underserved populations and expansion of the available range of services are commonly cited (Dively & McGill, 1991; Niemeier, 1985; NUTN, 1991; U. S. Congress, OTA, 1989). More specific goals include providing K-12 courses to rural high schools, delivering to the private sector extended degree programs in engineering, computer science, and business; and providing teacher inservice programs (Barnard, 1990; Olcott, 1988; U. S. Congress, OTA, 1989).

The rationales for statewide networks draw attention to a critical point: educational policy must evolve in concert with political and economic policy making agendas. Most statewide telecommunications networks are a hybrid of institutions, each with its own educational, political, and economic agendas that must be implemented cooperatively with those of other members (e.g., community colleges, universities, K-12, business, etc.). Universities must function within this political-economic environment in prioritizing, developing, and implementing extended degree programs via a statewide telecommunications network.

To fully understand the accreditation, curricular approval, and policy revision processes, a final comment on educational access is necessary. Statewide networks are founded on the principle of discretionary rather than unrestricted open access to educational programs. This is particularly true for university degree programs. Moreover, multiple program providers, influenced by the political-economic policy dynamic, prioritize programming in a way which increases access for some students while limiting access to others. For example, extended degree programs inherently eliminate some students due to admission requirements or enrollment limitations. Conversely, a series of unrelated courses are more likely to provide unrestricted access, regardless of the instructional delivery system used (e.g., television, independent study, face-to-face, etc.).

For economic and political reasons, MBA programs are often extended to corporate business sites despite the existence of student markets in other sectors. Similarly,

engineering degree programs may be made available to employees of high tech companies rather than to students in a rural community college.

The political-economic dynamic is only one factor that affects program prioritization at the institutional level. The availability of faculty, fiscal resources, and support services also influences program prioritization. Statewide telecommunications networks do, however, assume political identities that are defined by policy makers through the programmatic infrastructure. Awareness of this point is critical for universities considering the delivery of extended degree programs or a major portion of coursework via a statewide telecommunications network.

The Policy Context

The complexity of statewide policy making increases when we consider the multiplicity of governing structures outside the higher education setting (NUTN, 1991; U. S. Congress, OTA, 1989). Most states have a state board of education that has legislative authority in the K-12 area. This board works closely with a state department of education that coordinates regional and local educational agencies in formulating and implementing K-12 policies. Some states establish separate boards for community colleges while others fuse this with existing postsecondary governing structures or with K-12 systems.

To complicate this context further, state legislatures shape educational policy through legislation and fiscal appropriations for education at all levels (U. S. Congress, OTA, 1989). Governors exert their influence for political and economic agendas and legislators continuously balance pressures from all sectors of education. Moreover, state legislatures and agencies assume the dual role of empowerer and regulator in this programmatic and budgetary policy arena (U. S. Congress, OTA, 1989). Lastly, the public plays a pivotal role in shaping the policy agendas of these groups.

Given the complexity of this policy environment, a statewide telecommunications board or equivalent governing authority must establish political and economic relationships to ensure long-term support for network activities. In effect, the telecommunications board becomes a political entity first and foremost.

The policy-making autonomy of universities is greatest at the institutional level. External policy agendas are often beyond their control, even at the state system level. This situation results in several implications for increasing access through telecommunications delivery of coursework supporting extended degree programs. First, universities should focus on policy making at the institutional level. External policy agendas are important and should be monitored closely; however, institutional policy making shapes the capacity of extended degree programs to enhance educational access and effectively integrate telecommunications instruction.

Second, the ability of universities to exercise policy-making autonomy on additional levels will increase as institutions position themselves within a statewide telecommunications network. Institutional leverage in the external policy-making arena is dependent on the effective resolution of major issues inside the academy. In concert with state system administration, the efficacy of network institutions to increase student access is dependent, to a large extent, on their ability to establish clear and consistent administrative and academic policies that remove barriers rather create new ones.

Policy Issues

Program Prioritization

What criteria are used to determine which degree programs from which institutions receive priority access to the network? Who is responsible for making these decisions and what procedures will be used? System and institutional administrators generally evaluate (a) documented program need, (b) available fiscal, human, and support resources;

(c) ability of program to stabilize enrollments, recover costs, and generate slack resources; (d) program quality and standards, and (e) congruency with an institution's mission. At the system level, program prioritization may involve designating "lead institutions" for extended delivery of specific degree disciplines. Moreover, individual institutions must internally prioritize programs appropriate for extended delivery. These may or may not coincide with priorities established at the state system level. Once system and institutional prioritization has been completed, scheduling and access to the technical system must be coordinated among all program providers in conjunction with the state telecommunications governing authority.

Extended Degree Program Curricular Review Procedures

Extended degree programs require comprehensive curricular review and approval by the academic unit, institutional, system, & state policy making bodies. These requirements are significantly more extensive than those governing a singular course or even a series of courses off campus via telecommunications or other instructional delivery systems. Academic quality, support services, and course logistics take on an entirely new aspect in the context of the full-scale delivery of an approved academic degree program. Curricular design and approval are initiated in response to the institution's prioritization of academic programs appropriate for off-campus delivery. During this phase, the diverse issues related to off-campus delivery of designated degree programs are discussed.

The key players in the curricular review process are the faculty senate (curriculum and graduate councils), academic unit review committees, and the provost or equivalent academic officer. Liaisons with other institutions and the state system administration must be established during the development phase. Central administration is critical for extended degrees that integrate telecommunications.

Gellman-Buzin (1987) writes:

Telecommunications will not succeed in any organization without top-level administrative support. Those colleges that lead in the technological marketplace have presidents who are convinced that telecommunications is good for the institution *and* for the President. (p. 80)

Curricular approval is a time consuming process; a six to nine month approval period is common. This time frame delays program marketing, admissions, scheduling of courses and faculty, and other administrative and support services. Institutions must consider these issues in planning their off-campus degree programs, particularly when a major portion of the coursework will be delivered via telecommunications.

Academic Residency

How are extended degree programs affected by, and how do they affect institutional residency requirements, particularly in those cases in which a major portion of coursework is delivered via telecommunications? This issue pertains to undergraduate and graduate programs and varies across institutions. Most institutions require one year of residency to satisfy baccalaureate degree requirements. Students normally complete this requirement on-campus and coursework must be taken from regular institutional faculty (Olcott, 1991).

Graduate residency requirements vary across institutions. Academic units often stipulate additional residency requirements. Common graduate residency requirements include one or more of the following: (a) total resident credit hours, (b) a specified number of consecutive quarter enrollments, (c) minimum number of credit hours of enrollment during consecutive quarter enrollment, and (d) teaching of resident credit courses by regular institutional faculty (Olcott, 1991).

The residency issue is accentuated for instructional delivery via telecommunications. Olcott (1991) states:

Should distance delivered courses carry resident credit status? Must distance delivered courses be taught by regular faculty to obtain residency status? Conversely, if distance learning courses do not carry resident status, how do they apply? Are they viewed similar to transfer coursework from other institutions? If taught concurrently, do on-campus students receive resident credit while off-campus students do not? Institutions must clearly define whether distance learning course carry full resident credit. Once this is defined, the issue of total hours applicable toward an extended degree can be addressed. This issue will continue to create a dichotomy for extended learning advocates and proponents of on-campus residency. (p. 55).

Residency requirements may be perceived as a barrier to extended degree programs by students, particularly placebound adults with family, work, and community responsibilities. Institutions must assess whether to accommodate off-campus students by eliminating the total hour residency requirement or by modifying existing requirements designed to maintain the academic integrity of residency while enhancing program access to off-campus students. This is a philosophical question, permeated with strong academic traditions, that unfortunately has no easy answer.

Fee Structures

State system institutions have tuition and fee structures approved by a State Board of Higher Education Higher Education (or equivalent) and the Legislature. These fee structures provide a basis for allocating full-time equivalent appropriations and for determining enrollment corridors for system institutions. They are part of a comprehensive systemwide budgeting and enrollment management planning strategy.

Cost-recovery programs, however, normally have considerable latitude in establishing fee structures. Many extended degree programs are offered through a continuing education unit in which administrative, instructional, and support service costs must be recovered through course fees generated by minimum break-even enrollments. Continuing education units often operate in highly competitive environments in which fee structures vary considerably.

Telecommunications program delivery may exacerbate the variability in fee structures in several ways. First, most (not all) extended courses offered through telecommunications are administered through continuing education on a cost-recovery basis: there must be sufficient student enrollments to cover program costs. Second, transmission costs (e.g., transponder time, telephone lines, etc.) often have to be included in the fee structure. Finally, support services, facilities use, and program developmental costs affect fee structures.

Most state networks are funded through a patchwork fiscal hybrid of membership fees, student fees, state and federal grants, legislative appropriations, gifts, and consortium project grants (U. S. Congress, OTA, 1989). These factors may result in a telecommunications fee structure that is cost prohibitive to many off-campus students and antithetical to the commonly espoused ideal that statewide telecommunications programs are cost effective. Gunawardena (1990) writes:

Telecommunications systems do not save money in the long run. Institutions investing in them should be prepared to take a risk. On the other hand, they provide an institution with the capability of serving a much larger audience and one that is not easily accessible by any other means. (p. 41)

Articulation

Articulation refers to the transferability and applicability of distance learning courses toward institutional degree requirements. Academic units retain control over the acceptance of transfer coursework toward their degree program requirements and are crucial to determining the degree of articulation of telecommunications courses among system institutions. The uses of articulation often become a barrier to student access, a reflection of political-bureaucratic interests rather than a means of facilitating access to, and completion of, a student's program. Faculty from each institution must be involved in their

respective discipline areas and students must be able to design a program from a comprehensive array of approved coursework from multiple institutions.

Accreditation

Making extended degree programs accessible to students via telecommunications require institutions to review the accreditation process. Institutional program accreditation does not automatically extend to off-campus delivery (NWASC, 1988). For example, changing the scope of institutional mission, expanding institutional geographical service area, and extending new or existing degree programs to off-campus locations are commonly viewed as "major substantive changes" that require accreditation review (NWASC 1988).

Accreditation is a process to assess program performance and integrity (NWASC, 1988). Accrediting bodies focus on four primary areas: (a) program goals, (b) resources (human & fiscal) to accomplish goals, (c) verification of program goals, and (d) the program's capacity to demonstrate that it can continue to accomplish these goals. Distance learning creates complex issues for accrediting off-campus degree programs. Institutional members of statewide networks must address these issues as one of the first steps for making programs accessible to off-campus students. Accreditation policy must evolve concurrently with the curricular approval process (Council on Postsecondary Accreditation, COPA, 1991).

Accreditation review and formal degree approval provide the foundations for ensuring a high quality program. The context of an approved academic degree program (in contrast to individual courses or a series of courses) provides the mechanisms to ameliorate many of the administrative, academic, fiscal, student, and support issues from the outset. Additional issues, particularly those related to telecommunications delivery must be resolved prior to curricular and accreditation approval and prior to program marketing and

delivery. Administrative and academic policies to accommodate extended degree programs is a major challenge for universities.

Modifying institutional administrative and academic policies to accommodate extended degree programs is a major challenge for universities. Academic traditions are embedded in the institution's history and optimum change is predicated on an environment conducive to supporting its most valuable resource, its faculty. Innovative change requires more than advocating the potential advantages of modern technology. A thorough understanding of an institution's academic culture, particularly an understanding of the professional demands placed on faculty, is necessary to promote effective change. Advocates of distance learning are reminded that the quality and success of all academic programs, technologically mediated or conventional, rests with the faculty.

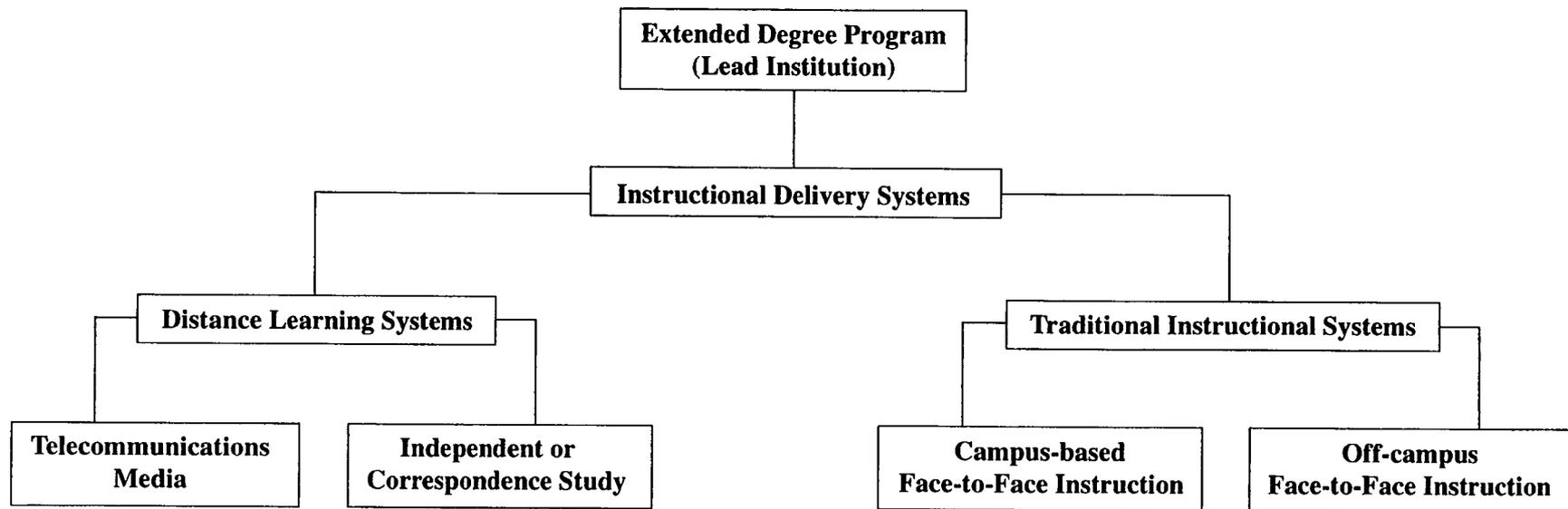
Willis (1989) accurately summarizes the academic policy challenge for institutions contemplating the use of telecommunications. He writes:

Statewide systems of higher education contemplating the eventual widescale implementation of distance education efforts would do well to review, scrutinize, and evolve traditional academic policies in concert with the distance education systems they incorporate. Such planning would enable the institution to more effectively capitalize on the benefits of widescale distance education while minimizing the difficulties that result when nontraditional instructional delivery methods are utilized in traditional educational settings. (p. 33)

Interinstitutional Program Delivery

Member institutions bring a variety of academic programs to a statewide telecommunications network. In many instances, resource limitations prevent an institution from offering an entire degree curriculum. Figure 4.1 delineates an interinstitutional paradigm in which designated "lead institutions" deliver the major portion of degree coursework through four primary instructional delivery systems (Olcott, 1991). Remaining coursework can be offered by other institutions to facilitate degree completion. By combining interinstitutional academic resources to support designated lead institution

Figure 4.1
An Integrated Instructional Framework for Interinstitutional Extended Degree Programs



Notes:

- 1. Telecommunications media: Satellite, microwave, ITFS, fiber optics, etc.**
- 2. Independent/Correspondence study (includes telecourses)**
- 3. Campus-based face-to-face instruction: Designed to meet degree residency requirements**
- 4. Off-campus face-to-face instruction: Instruction at satellite campus or other designated location**
- 5. Transfer coursework from accredited institution may apply toward degree requirements**

programs, extended degree programs can be designed with maximum flexibility to meet student needs. Moreover, the lead institution concept is predicated on program quality and academic standards that allow institutions to extend their most reputable programs (Oregon State System of Higher Education, OSSHE), 1991).

This framework emphasizes sharing resources, reciprocal support of system institutional programs, integrating alternative instructional delivery systems, and delivering high-quality degree programs to off-campus learners. The instructional delivery matrix allows for the strategic development of telecommunications-based coursework as an integral component of extended degree programs. This cooperative strategy allows effective resolution of many policy issues that affect program delivery for all system institutions. The success of this approach is based on one apparently simple and yet complex premise: system institutions must function as a system rather than as a group of autonomous entities. State system administrations must establish general guidelines for designating lead institutions in specific discipline areas. More importantly, system administrations must exert their leadership role in promoting interinstitutional cooperation.

Summary

The present discourse has been predicated on four primary axioms basic to effective use of telecommunications to increase learner access to university extended degree programs. These are: (a) the capacity of an institution to effectively participate in a statewide telecommunications network is dependent on the successful resolution of administrative, faculty, student, fiscal, and support issues at the institutional level; (b) degree approval and accreditation review must precede program delivery, (c) revision of institutional academic policies should accompany the design of extended degree programs, and (d) telecommunications delivery systems must be integrated with traditional instructional systems. Although these processes begin at the institutional level, they are

also influenced by the diverse policy agendas that all members bring to a statewide telecommunications network.

At the institutional level, program prioritization, curricular design and approval, and accreditation review create the framework for extended degree programs. The integration of telecommunications, and the accompanying review and revision of administrative and academic policies, requires institutions to engage in each of these processes. Moreover, these do not evolve in isolation from each other and must be addressed concurrently. At the forefront of these activities is a recognition that the aggregate result should culminate in a high-quality, cost effective, easily accessible program for off-campus learners.

Moore (Moore & Thompson, 1990) suggests that telecommunications provide the mechanism to expand educational access and improve the quality of education for all. The key, in Moore's view, is a greater focus on planning. He writes:

It is time for large scale, coordinated research, large scale, well funded course design and delivery; well integrated, multi-media delivery systems, and state, interstate, and national policy making and planning. (p. 45)

Statewide telecommunications networks possess the potential to increase educational access to off-campus students. Network planning initiatives must recognize that system effectiveness is affected by the interdependent needs of all members. Implementing a statewide system that is responsive to off-campus learners should guide system planning, programming, and delivery initiatives.

Chapter 5

Access to Learning Integrating Telecommunications Instruction in University Extended Degree Programs

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Olcott, D. J. (1993). Access to learning: Integrating telecommunications instruction in university extended degree programs. The Journal of Continuing Higher Education, 41, (1), 16-24.

Introduction

Telecommunications is redefining the boundaries of educational access (Olcott, 1992). This technological transformation has provided the impetus for institutional leaders to reassess traditional academic and administrative policies (DeWees, 1988; Dively & McGill, 1991; Olcott 1991, 1992; Willis, 1989) to facilitate the use of telecommunications instruction in extended degree programs. Telecommunications networks have enhanced the capacity of universities to deliver extended degree programs to off-campus students (Barnard, 1990; Major & Shane, 1991; Mayor, 1990; Mays & Lumsden, 1990; Moore, 1987; Niemeyer, 1985; Olcott, 1991,1992; U. S. Congress OTA, 1989; Willis, 1989). Today universities are building unprecedented partnerships to extend their academic programs to off-campus students.

This paper examines various factors that affect the use of telecommunications instruction in university extended degree programs. First, the role of telecommunications in extended degree programs is examined. Second, a framework for integrating telecommunications instruction with traditional delivery systems is presented from an interinstitutional delivery model. What are the advantages of interinstitutional cooperation? Which institution retains control of the academic program? Third, institutional policy issues that affect the use of telecommunications are discussed. These include curricular review and approval, accreditation review, academic residency, fee structures, and articulation. In conclusion, a list of recommendations for integrating telecommunications into extended academic programs is presented.

This paper examines specific administrative and policy issues that have evolved from the use of telecommunications by colleges and universities in the Oregon State System of Higher Education (OSSHE). Recognizing the diversity of American institutions, some of these issues and subsequent recommendations may not apply to many colleges and universities using telecommunications in extended degree programs. However, many of these issues are generic to most institutions and may enhance the reader's awareness of

how telecommunications affects the academic and administrative policy making processes for designing extended degree programs.

Although the technological infrastructure is critical to statewide networks and the subsequent delivery of telecommunications-based instruction by individual institutions, this exposition limits its discussion to instructional and administrative policy issues for using telecommunications in extended degree programs.

The Role of Telecommunications in Extended Degree Programs

The primary role of telecommunications is to enhance an institution's capacity to deliver instructional programs to off-campus learners. Moreover, telecommunications can provide an alternative path for off-campus students to complete their degree (Mayor, 1990). Colleges and universities are increasingly using telecommunications to supplement off-campus instruction by integrating technology-based instruction with existing delivery systems (Olcott 1991, 1992; OTA, 1989). Despite the proliferation of communication technologies, the scope of telecommunications use varies widely among colleges and universities (Dively & McGill, 1991; OTA, 1989). Differences in institutional mission, funding, faculty training and support services, academic programs, and technical capacity are common factors that affect institutional use (Olcott 1991; 1992).

At the institutional level, extended degree programs evolve in concert with the institution's mission. Within this context, institutional leaders must assess how telecommunications can enhance institutional mission, particularly in extended programs (Offerman, 1987). For example, Oregon State University has a statewide land grant mission and is using telecommunications to deliver education and training through its county extension offices. This is consistent with OSU's extended mission and expands the institution's capacity to deliver educational programming to local communities, provide

inservice training for extension agents, and supplement curricular offerings in existing extended degree programs.

Conversely, regional and urban institutions are reassessing their traditional service missions. Telecommunications expands geographical boundaries and creates new opportunities for these institutions to deliver instructional programs beyond their traditional service region. The fundamental question, however, remains the same. What is the extended mission of the institution and how can telecommunications enhance that mission?

Faculty acceptance and adoption of distance learning are pivotal factors affecting the use of media-based instruction (Rogers, 1983). The success of an academic program rests with the quality and expertise of its faculty. Telecommunications instruction is no exception. Moreover, institutions and academic units must provide appropriate support services and create an incentives infrastructure to facilitate faculty participation in distance learning programs (Grossman, 1987; Olcott 1991, 1992; Russo, 1988; Strain, 1989).

Olcott (1991) identifies five factors that affect faculty participation. These include: (a) available training for teaching via technology, (b) level and quality of instructional support services, (c) compensation, (d) inload vs out-of-load teaching assignments, and (e) applicability of extended teaching, face-to-face or via telecommunications, towards promotion and tenure. Additional issues affect faculty adoption, particularly the advantages and complexity of technology based-instruction and the compatibility of distance learning with the academic traditions and culture of the institution (Edelson, 1990; Olcott, 1991; Olcott & Dunham, 1991; Rogers, 1983).

Although the multiplicity of factors that affect the design of extended degree programs, the integration of telecommunications-based instruction is predicated on three basic assumptions. First, telecommunications should expand the curricular offerings available to off-campus students enrolled in extended degree programs.

Telecommunications should supplement rather than eliminate existing delivery systems. Second, the use of media-based instruction should enhance the academic mission of the

institution. Academic units utilizing telecommunications should ensure that this is consistent with the institution's mission (Offerman, 1987). Finally, the institution and academic unit must recognize the critical role of faculty in the distance learning enterprise by providing sufficient instructional support services and an incentives infrastructure that rewards faculty participation (Grossman 1987; Olcott, 1991; Russo, 1988; Strain, 1989).

Telecommunications is currently used in a variety of ways to support extended degree programs (OTA, 1989). Instructional programs can be delivered via interactive instructional television (ITV), audio teleconferencing, computer information systems, and in multi-media formats such as audiographics (Kelleher & Cross, 1985; NUTN, 1991; OTA, 1989). Transmission technologies may include a combination of satellite, ITFS, fiber optics, microwave, cable, and computers. Telecourse video tapes are being used to supplement independent study courses and provide self-directed learning opportunities for off-campus learners. Computer information systems provide student access to data bases, library resources, and the instructor to facilitate instructional feedback, program planning, and expedite course assignments between students and the instructor. Through effective planning and design, telecommunications can be combined to provide direct instruction and site-specific instructional and student support services.

Most institutions do not have the resources and faculty to deliver entire degree programs via technology. Campus-based instructional programs often preclude this commitment of resources and faculty. Although the technological capacity may be available, most institutions are not philosophically prepared to abandon traditional academic policies and standards to implement telecommunications-based degree programs (Steele, 1990). A more realistic approach is to integrate telecommunications instruction with traditional delivery systems, thereby increasing curricular offerings and combining the collective resources of the institution or institutions to design and deliver extended degree programs (Olcott, 1991). The following section examines a framework for implementing this process.

Interinstitutional Delivery of Extended Degree Programs

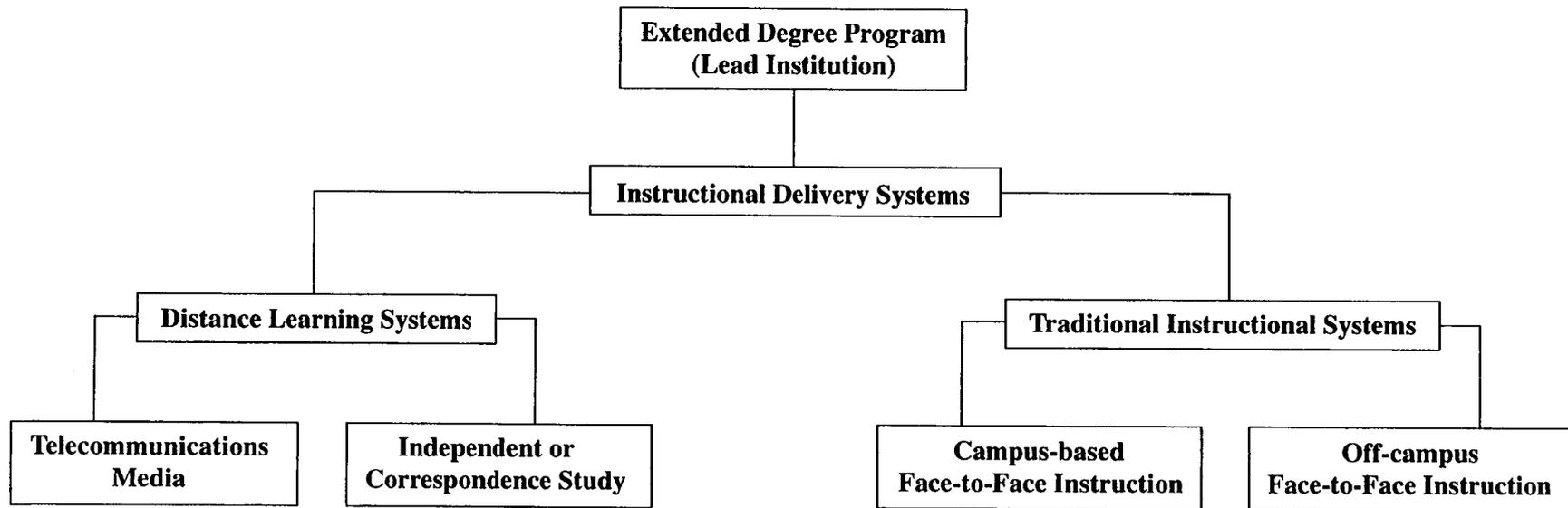
Olcott (1991) presented an institutional framework for integrating instructional delivery systems in extended degree programs. Figure 5.1 (Olcott, 1992) expands this to an interinstitutional paradigm in which "lead institutions" deliver the major portion of degree coursework through four primary instructional delivery systems. Remaining coursework can be offered by other institutions to facilitate degree completion. By combining interinstitutional academic resources to support designated lead institution programs, extended degree programs can be designed with maximum flexibility to meet faculty and student needs (Olcott, 1992; Oregon State System of Higher Education Continuing Education Council, 1991).

The "lead institution" concept is predicated on program quality and academic standards that allow state institutions to extend their most reputable programs based on academic mission, program need, sustainable funding, telecommunications capacity, and a commitment to establishing instructional and student support services at a level commensurate with campus-based instruction (Olcott, 1992).

The designated lead institution academic unit retains curricular and administrative control over the program, awards the degree and establishes policies for integrating approved coursework from other system institutions. The instructional delivery matrix promotes the strategic development of telecommunications-based coursework as an integral component of extended degree programs. Many policy issues (e.g., residency, articulation, costs, accreditation, program prioritization, etc.) can be resolved more effectively because they affect program delivery for all participating institutions (OSSHE Continuing Education Council, 1991).

The key to implementing this framework is the capacity of state system administration to exert a strong leadership role in promoting interinstitutional cooperation. Moreover, policy guidelines for designating lead institutions in specific discipline areas

Figure 5.1
An Integrated Instructional Framework for Interinstitutional Extended Degree Programs



Notes:

1. **Telecommunications media:** Satellite, microwave, ITFS, fiber optics, etc.
2. **Independent/Correspondence study** (includes telecourses)
3. **Campus-based face-to-face instruction:** Designed to meet degree residency requirements
4. **Off-campus face-to-face instruction:** Instruction at satellite campus or other designated location
5. **Transfer coursework from accredited institution may apply toward degree requirements**

must be developed that provide equitable opportunities for each institution. Olcott (1991) summarizes the advantages of integrating instructional delivery systems in extended degree programs. He writes:

There are several advantages to this approach. First, it preserves the qualitative standards of face-to-face instruction through its on-campus and extended campus components. This is particularly appealing to traditional campus-based faculty. Second, it increases student choices in selecting courses and convenient times and locations. Third, this framework allows for gradual integration of telecommunications delivered courses through more effective planning, coordination, design, and delivery. Fourth, well designed correspondence or independent study courses provide self-directed learning opportunities for students. Finally, the integrated approach creates optimum communication channels among and between faculty, students, and the institution.

This approach gives institutions maximum flexibility for developing extended degree programs without dependency on a single delivery system and without compromising traditional face-to-face instructional systems.

The proportion of course work delivered through each system will vary across institutions and be dependent on mission, available human and fiscal resources, institutional innovativeness, and many others. Each delivery system is complementary to the other and effective instructional and administrative strategies can be transferred across each system. The problems associated with overemphasizing new technology are brought into an equilibrium that fuses proven traditional academic instructional systems with new learning systems. (p. 52)

Policy Considerations for Using Telecommunications Instruction in Extended Degree Programs

Curricular Review and Approval

Comprehensive curricular review and approval by the academic unit, institutional, system, & state policy making bodies are typically required for extended degree programs. The approval process varies considerably among institutions and may include review by additional policy making agencies. Curricular design and approval are initiated in response to the institution's prioritization of academic programs amenable to off-campus delivery.

Institutional participation in the curricular review process may include the faculty senate, academic unit review committees, and the provost or equivalent academic officer. Central administration support at the institutional level is also critical for extended degrees that integrate telecommunications (Gellman-Buzin, 1987). State system administration, the accrediting agency, and other system institutions may also be involved in the review and approval process (Olcott, 1992).

The approval process may take as long as one year. Moreover, this timeframe delays program marketing, admissions, scheduling of courses and faculty, and other administrative and support services (Olcott, 1992). Institutions must consider these issues in planning their off-campus degree programs, particularly when a major portion of the coursework will be delivered via telecommunications.

Accreditation

Making extended degree programs accessible to students via telecommunications require institutions to revisit the accreditation process (Olcott, 1992). Institutional program accreditation does not automatically extend to off-campus delivery (Northwest Association of Schools and Colleges (NWASC, 1988). Changing the scope of institutional mission, expanding institutional geographical service area, and extending new or existing degree programs to off-campus locations are commonly viewed as "major substantive changes" that require accreditation review (NWASC, 1988).

Accreditation is a process to assess program performance and integrity (NWASC, 1988). Accrediting bodies focus on four primary areas: (a) program goals, (b) resources (human & fiscal) to accomplish goals, (c) verification of program goals, and (d) the program's capacity to demonstrate that it can continue to accomplish these goals (NWASC, 1988). Accreditation requirements should be addressed concurrently with the curricular approval process (Council on Postsecondary Accreditation, 1991). Accreditation review

and formal degree approval provide the foundations for ensuring a high quality program (Olcott, 1992). These processes may resolve many of the administrative, academic, fiscal, student, and support issues associated with implementing extended degree programs that integrate telecommunications instruction. These issues should be resolved prior to curricular and accreditation approval and prior to program marketing and delivery.

Academic traditions are embedded in the institution's history and optimum change is predicated on an environment conducive to supporting its most valuable resource, its faculty. Change requires more than advocating the potential advantages of modern technology (Rogers, 1983). A thorough immersion within the academic culture of the academy is necessary to acquire an understanding of the issues requiring resolution for effective change to occur (Edelson, 1990; Olcott & Dunham, 1991).

Willis (1989) accurately summarizes the academic policy challenge for institutions contemplating the use of telecommunications. He writes:

Statewide systems of higher education contemplating the eventual widescale implementation of distance education efforts would do well to review, scrutinize, and evolve traditional academic policies in concert with the distance education systems they incorporate. Such planning would enable the institution to more effectively capitalize on the benefits of widescale distance education while minimizing the difficulties that result when nontraditional instructional delivery methods are utilized in traditional educational settings. (p. 33)

Academic Residency

How do extended degree programs, particularly those that include a significant portion of coursework via telecommunications, affect institutional residency requirements? This issue pertains to undergraduate and graduate programs and varies across institutions and academic programs. Most institutions require one year of residency to satisfy baccalaureate degree requirements. Students normally complete this requirement on-campus and coursework must be taken from regular institutional faculty

(Olcott 1991,1992). Graduate residency requirements vary across institutions for masters and doctoral programs. Academic units often stipulate additional residency requirements.

Common residency requirements for graduate programs usually require one or more of the following: (a) total resident credit hours, (b) a specified number of consecutive quarter enrollment, (c) minimum number of credit hours of enrollment during consecutive quarter enrollment, and 4) and that resident credit courses be taught by regular institutional faculty (Olcott, 1991).

The residency issue is accentuated for instructional delivery via telecommunications. Olcott (1991) states:

Advocates of distance learning as a component of extended degree programs must answer similar questions. For example, should distance delivered courses carry resident credit status? Must distance delivered courses be taught by regular faculty to obtain residency status? Conversely, if distance learning courses do not carry resident status, how do they apply? Are they viewed similar to transfer coursework from other institutions? If taught concurrently, do on-campus students receive resident credit while off-campus students do not? Institutions must clearly define whether distance learning courses carry full resident credit. Once this is defined, the issue of total hours applicable toward an extended degree can be addressed. This issue will continue to create a dichotomy for extended learning advocates and proponents of on-campus residency. (p. 55)

Residency requirements may be perceived as a barrier to extended degree programs by students, particularly placebound adults with family, work, and community responsibilities. Institutions must assess whether to eliminate the total hour residency requirement to accommodate off-campus students or to modify existing requirements that maintain the academic integrity of residency and yet enhance program access to off-campus students. This is a philosophical question, permeated with strong academic traditions, that unfortunately has no easy answer.

Fee Structures

Telecommunications program delivery may exacerbate the variability in fee structures (Olcott, 1992). First, many courses offered through telecommunications are administered through continuing education on a cost-recovery basis. There must be sufficient student enrollments to cover program costs. Second, transmission costs (e.g., transponder time, telephone lines, etc.) may be included in the fee structure. Finally, support services, facilities use, and program developmental costs affect fee structures.

Most state networks are funded through a patchwork fiscal hybrid of membership fees, student fees, state and federal grants, legislative appropriations, gifts, and consortium projects such as Star Schools and Annenberg (OTA 1989; NUTN 1991). These factors may result in a telecommunications fee structure that is cost prohibitive to many off-campus students and antithetical to the commonly espoused ideal that statewide telecommunications programs are cost effective. Gunawardena (1990) writes:

Telecommunication systems do not save money in the long run. Institutions investing in them should be prepared to take a risk. On the other hand, they provide an institution with the capability of serving a much larger audience and one that is not easily accessible by any other means. (p. 41)

Articulation

Articulation refers to the transferability and applicability of distance learning courses toward institutional degree requirements (Olcott, 1986). Academic units retain control over the acceptance of transfer coursework toward their degree programs and are crucial to establishing reciprocal articulation of telecommunications courses among system institutions. Articulation is often perceived as a barrier to student access, susceptible to political-bureaucratic interests rather than facilitating access to, and completion of, a student's program. Faculty from each institution must be involved in their respective

discipline areas and students must be able to design a program from a comprehensive array of approved coursework from multiple institutions

Recommendations for Practice

The efficacy of using telecommunications in extended degree programs is dependent on many factors which vary considerably across institutions and states. It is beyond the scope of this paper to provide a panacea for the broad range of issues facing colleges and universities using telecommunications. The following recommendations focus on basic issues related to the use of telecommunications instruction in extended degree programs.

1. Academic leaders must define how telecommunications "fits" with the institution's mission (Offerman, 1987). How can telecommunications enhance institutional mission, strengthen academic programs, provide an incentives infrastructure for faculty, and benefit off-campus students?
2. Institutional leaders should re-examine administrative, faculty, student, fiscal, and support issues related to using telecommunications. For most institutions, the revision of academic and administrative policies should accompany the design of extended degree programs (OTA, 1989; Willis, 1989).
3. Institutions should gradually integrate telecommunications instruction with existing delivery systems in designing extended degree programs (See Figure 5. 1). Most institutions do not have the human and fiscal resources nor the technical capacity to deliver entire degree programs via technology. More importantly, most institutions are not philosophically prepared to abandon traditional administrative, fiscal, and academic policies to implement technology-based degree programs (Olcott, 1991; Steele, 1989). Institutions typically use telecommunications to supplement existing instructional delivery systems, recognizing that most programs are a synthesis of these systems.

4. Institutional leaders should advocate interinstitutional cooperation in designing and delivering extended degree programs. The multiple resources of interinstitutional cooperation will enhance the strategic use of telecommunications instruction (See Figure 5.1) and provide a broader range of available curriculum to off-campus degree students.
5. The approval of an extended degree program typically requires review by an institution's curricular policy making bodies. Institutions using telecommunications in extended degree programs should initiate this process at the outset to facilitate faculty participation in extended degree programs, particularly those using telecommunications. More importantly, this approval process must normally be completed prior to comprehensive marketing and actual delivery of the program. Although these processes vary across institutions, they normally include the academic unit, the faculty senate, central administration, state system administration, and a state board of higher education or equivalent authority. They may also include other state education agencies as well as review by other system institutions to prevent duplication of existing programs (Olcott, 1992).
6. Implementing an extended degree program is considered a major "substantive change" in the institution's mission and requires review and approval by the governing accrediting agency (NWASC, 1988). Institutions should establish liaisons with the applicable accrediting agency early in the degree design process (Olcott, 1992).

Summary

Colleges and universities are increasingly integrating telecommunications instruction to enhance student access to extended degree programs. Telecommunications simultaneously creates a continuum of instructional and administrative policy issues that require resolution by institutional and state policy makers. Distance learning advocates must recognize that an

institution's efforts to facilitate faculty adoption, establish instructional support services, and create an incentives infrastructure that formally recognizes faculty participation are crucial to the effective use of technology in extended degree programs.

Interinstitutional cooperation can maximize optimum use of human and fiscal resources of system institutions for extended degree programs that integrate technology-based instruction. Moreover, by integrating telecommunications instruction with traditional delivery systems, institutions can cooperatively increase available curricular offerings, facilitate student completion of extended degree programs, and establish the foundations for future collaborative efforts among institutions and agencies using telecommunications.

Chapter 6

Audio Teleconferencing and the Adult Learner
Strategies for Effective Practice

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Introduction

The increasing growth of video-based instructional delivery systems has overshadowed the use of audio teleconferencing for providing high quality, low cost distance education programs (Garrison, 1990). Moreover, audio teleconferencing has become the forgotten "voice" among distance learning technologies. The interesting paradox, however, is that the most highly produced and costly video programs are ineffective if they lack one critical component: high quality audio for facilitating interactive communication during instruction (Garrison, 1990; Hall, 1991; Hill, 1991a; Hughes, 1990). Despite the growth of interactive instructional television (ITV), audio teleconferencing remains a viable and cost effective alternative for most colleges and universities using distance education (Burge & Howard, 1990; Garrison, 1990; Moore, 1994a; Olcott, Hardy, & Boaz, 1992).

Distance learning requires a broad range of administrative, coordinating and instructional activities for ensuring high quality, cost effective interactive programs (Olcott, 1991; 1992; 1993). This article will identify critical factors for selecting audio teleconferencing as an instructional delivery system for distance learning. A selection of recommended strategies for audio teleconferencing administration and instruction will be provided for administrators whose responsibilities include training distance teaching faculty, providing student support services and designing an administrative and fiscal infrastructure for managing distance education.

The need for distance learning is often related to an institution's extended mission for meeting the educational needs of off-campus, placebound adult students (Offerman, 1987). More importantly, institutions must address the question: What is the extended mission of the institution and its academic units and how can telecommunications-based instruction enhance those missions and maintain academic standards and quality in a cost-effective manner? (Olcott, 1993). Recognizing this need, institutions may choose from a variety of alternative delivery systems. These include print (correspondence study),

video (satellite, microwave, fiber optics, ITFS or telephone video conferencing), computer conferencing or a synthesis of these systems (Kelleher & Cross, 1985; NUTN, 1991; U. S. Congress, OTA, 1989). Each of these delivery systems has been proven effective to deliver distance learning courses and programs.

Extensive empirical research has shown that students who participate in video-based distance learning programs perform academically commensurate with their traditional campus-based counterparts (Clark & Verduin, 1989; Cookson, 1989; McCleary & Egan, 1989; Moore, Thompson & others, 1990; Ritchie and Newby, 1989; Whittington, 1987). Similar results have been reported for courses delivered via audio teleconferencing (Burge & Howard, 1989; Garrison, 1990; Moore, 1994a).

These results reveal a common finding among distance education performance studies: comparable performance between distance students and campus students has consistently been reported despite numerous issues and concerns raised by faculty and students related to interaction, technical coordination, support services and training (Garrison, 1990; Moore, 1994a; Shaeffer, Kipper, Farr & Muscarella, 1990). Given these issues have not been correlated to reduced performance, the potential of audio teleconferencing to enrich the depth of learning, the quality of interaction, and the breadth of the aggregate learning process may be related to the resolution of faculty and student issues toward distance teaching.

Audio teleconferencing, lacking a video component, is uniquely suited to facilitate quality interaction, balance student autonomy and interdependence with faculty centered approaches, and enhance faculty commitment to a qualitatively rich learning experience for students. Given a choice, most students still prefer traditional face-to-face delivery of instruction. However, this may be true in part because traditional instruction is students' only instructional frame of reference, and learners are used to having the instructor in close proximity.

Because students prefer face-to-face instruction, many institutions engaged in distance education tend to embrace high-end technological video systems that are often costly. Depending on available resources some institutions sacrifice two-way live audio capabilities which is the critical characteristic of successful distance learning programs. Live, two-way audioconferencing, may provide a higher level of interaction than video-based programs and at much lower costs (Moore, 1994a).

Considerations for Selecting Audio Teleconferencing

Using an audio only delivery system requires administrators to consider whether the *course content* is amenable for delivery via this technology. Instructional format, course level and the level of responsibilities delegated to on-site facilitators are all factors that must be considered for audioconference delivery. For example, lecture, seminar and round-table discussion formats lend themselves well to audio conferencing. Depending upon the number of sites on-line during a class session, an additional staff member may be needed to moderate class discussions.

Many activities normally conducted during a traditional, lecture-based course are inclusive in an audioconference course. The TeleLearning Center at the University of Texas at Austin offers several audio-based courses for rural high school students, one of which is Spanish II. During this class, the instructor has students participate in a Spanish play. Students at each site play the various roles, and evaluation data indicate students enjoy this activity as much as they do in a traditional classroom. By assigning such a group project, the teacher ensures that students enunciate each of their lines clearly for other on-line students to hear.

Course level is another important factor to consider when using an audioconference format. Graduate instruction generally places greater responsibility on the student for his or her own learning than most undergraduate courses. Because graduate students tend to

be more disciplined and committed to their respective subject areas, the instructor often plays the role of "facilitator," rather than the traditional role associated with "teacher." Audioconference technology is an ideal delivery medium for the type of interaction common to graduate level instruction. Depending upon available equipment and staff, seminar-type discussions can be easily facilitated using this technology. Conversely, undergraduate courses delivered via this medium give the student an opportunity to raise questions and make comments similar to that of the traditional classroom.

Instructional format and course level may still induce some limitations using audioconference technology. However, the use of *on-site coordinators or* facilitators may ameliorate many of the problems associated with this type of delivery. Site facilitators can assist in the management of group activities and exercises, serve as a resource person, review new information with students, and help provide feedback to students on class projects. Effective use of site facilitators or coordinators provides faculty opportunities to use a variety of instructional techniques that are appropriate to course level and audience.

The site facilitator plays an important role in the successful delivery of an audioconference course. Because the course instructor is unable to see verbal cues for misunderstandings during class, he or she must often rely upon the students' initiative in asking questions. The more assertive students readily take the microphone and indicate that they are having a problem understanding the concept being presented. However, the less assertive students are likely to sit and never ask questions, similar to typical face-to-face classroom instruction. If the site facilitator notices that a student is having trouble, a voice of encouragement may help the student feel more confident to ask questions. Essentially the site facilitator becomes the "eyes" of the instructor and is invaluable in the feedback process.

Administrative and Instructional Issues

The selection and training of audio teleconferencing faculty are essential to program success (Beaudoin, 1990; Dillon & Walsh, 1992; Shaeffer, Kipper, Farr, & Muscarella, 1990; Wolcott, 1993). Many faculty do not feel comfortable teaching through telecommunicated media, even one as easy to use as audioconferencing. Unfortunately, this discomfort is usually detected by the students, which in turn may inhibit their own capacity to interact effectively through this medium. Administrators who are sensitive to this problem will develop faculty training workshops that address individual needs of distance teaching faculty. Instructors who are initially uncomfortable with the delivery medium can develop effective teaching strategies if given guidance and support. An important factor in effective distance teaching is the ability of the instructor to facilitate continuous interaction with and among students (Garrison, 1990; Moore, 1989; Moore, 1994a). Audioconference formats allow for this interaction to occur easily and with a moderate level of training.

Preliminary planning meetings should be held once the need for the course has been established. Content compatibility with the audioconference format and selection of faculty should be explored during these meetings. Creative ways to supplement the delivery system (e.g., text materials, videotapes, etc.) may also be discussed. The first meeting should include representatives from the sponsoring organization, instructional designers, production technicians familiar with the delivery system (or a representative from the organization providing audio support services if off-campus), the prospective faculty members (if selected at this point), and the coordinator for the program or course.

There are two important considerations in the selection and convening of the planning team. First, while the "team approach" is necessary to ensure effective planning and design of courses, the issue of faculty instructional autonomy may be the most pervasive barrier to faculty participation in distance teaching (Dillon & Walsh, 1992;

Grossman, 1987; Strain, 1987). Convening the planning team also means being sensitive to the traditional roles of faculty and embracing the opportunities that mediated instruction may present to the faculty member (e.g., research, learning new skills, etc). The guiding rule is to keep the faculty member center stage in the instructional process regardless of the size and expertise of the planning and design team.

The second consideration is simply that not all institutions will have access to production technicians, instructional designers, nor training programs for faculty and site coordinators. These are components of the design and delivery team that need to be included even if it requires seeking outside support from other institutions or consultants. The first meeting will provide an opportunity to explore general questions related to the number of students and course sites, target audience, marketing strategies, role of site facilitators, course dates and times, and budget planning. The following design components are recommended discussion items at the preliminary meeting.

1. Plan carefully about how many sites will be on-line for the course. Thirty (30) students total from all sites is a very manageable number for an audioconference course. Class sizes as high as 50 may be possible depending on course content, effective use of site facilitators, number of sites and the ability of the faculty member to maintain interaction among sites. It is equally important to limit the number of students at each site. Generally, 8 to 10 work well for most formats.
2. Ensure that marketing materials include sufficient information about the course and how it will be delivered. It may be useful to offer a demonstration of the technology at a location; people are often confused about audioconferencing and the advantages it offers as a delivery medium. Due to the large number of marketing pieces that reach mailboxes everyday, the course announcement should be easy to read and include course information and contact information (Rudich, 1991).
3. Prepare and monitor your budget carefully. Determine a break-even point based on prospective enrollments and your projected expenses. Two general rules can assist you

in this process. First, estimate your expenses high and your course revenue low. This gives you a small amount of "slack" necessary during the initial years of a program. Hidden costs are often difficult to account for in an operational budget and the estimated number of enrollments often decrease as tuition payment time approaches. Common expense items include instructors' salaries, site facilitator compensation (if required), mailing costs, telephone long distance charges, support staff salaries, and miscellaneous equipment.

Second, most distance learning courses or programs can take up to five years to break-even, depending upon the type of program and initial investments in technological systems whether purchased or rented. Table 6.1 presents a basic budget for an actual three-hour audio audioconferencing graduate course that included four remote sites and a total of 37 students. The course utilized an outside provider for audioconference services. Table 6.2 presents a budget for a similar course where audioconference service was provided by the host institution with its own audioconference bridge.

Equipment Needs and Preliminary Tests

All successful distance learning programs ensure that the delivery medium is technically sound. Though problems will occur, every effort should be made to monitor the proper operation of the medium. If audio reception equipment is provided by the sponsoring institution, all components should be tested prior to sending them to the remote sites. Speaker phones are effectively for audio instruction for one or two students at a site. Because the quality of most speaker phone systems is below commonly accepted standards for hour-long sessions, it is advisable to use higher quality reception equipment such as a convener.

A convener serves as an amplifier for the phone line. This ensures that little or no static occurs during instruction. Several companies manufacture conveners and similar

Table 6.1
Interactive Audio Teleconferencing Sample Budget
(with outside conference service provider)

Income

Tuition (37) students from four remote sites X \$226	\$8,362
Instructional Materials (37) students X \$45	\$1,665
	Total: \$10,027

Expenses

Faculty Compensation	\$2,500
Studio Technician	\$400*
On-Site Coordinators (\$75. X 4)	\$300**
Telephone Line Usage (\$57.60 x (15) class sessions) (.06 cents per minute X 60 X 4 hours = #14.40 per line/per class)	\$864*

Continuing Education Administrative/Equipment Costs

Course mailings	\$400
Telephone	\$80
Copying/Duplication	\$1,665
Personnel (25 hours @ \$20)	\$500
Marketing	\$200
Speaker Phones (\$120 X 4)	\$480

Miscellaneous Costs

Remote Site Telephone System Conversion	\$250
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Total : \$7,639

Income:	\$10,027	
Expenses:	\$7,639	
Projected Revenue:	\$2,388	

* Telephone line usage rates and studio technician were provided by the university educational telephone network. Rates may be higher depending on local resources to support audio teleconferencing. Course was taught from 5:00 - 9:00 p.m. during reduced phone rates.

** On-site coordinators were enrolled in the course. In general, costs for on-site coordinators may be considerably higher.

Table 6.2
Interactive Audio Teleconferencing Sample Budget
(with internal conference service)

Income

Tuition (43 students from seven remote sites X \$225)	\$9,675
Audio teleconference equipment rental (\$100 X 7 sites)	\$700
	Total: \$10,375

Expenses

Faculty Compensation	\$1,395
Teleconference Bridge Operator	\$75
Long Distance Charges (.10 cents per minute X 60 X 15 class sessions X 7 sites)	\$630

TeleLearning Administration/Equipment Costs

Course Mailings	\$50
Copying/Duplication	\$200
Personnel (25 hours @ \$20)	\$500
Marketing	\$150

Total: \$3000***

Income:	\$10,375
Expenses:	\$3,000
Projected Revenue:	\$7,375

*** Teleconference Bridge: approximately \$30,000 for a 24-port bridge. This figure was not included in the above costs as it is covered by several courses each year. The percentage that each course contributes to the bridge payment is determined by the number of courses offered each year.

audioconference equipment, with either voice-activated or press-to-talk microphones. The type and specifications for reception equipment will depend on available resources.

Audioconference programs are dependent upon high quality instructional delivery which is synonymous with good audio equipment (Hall, 1991; Hill, 1991b; Hughes, 1990).

If a voice activated system is utilized, it is recommended that students are located close enough to the equipment to ensure that all voices are "picked up" in class discussions. If a system with group microphones is used, one microphone should be provided for every three for four students if possible. Up to 6 students can share a microphone in most courses. Ideally, each student should have a microphone; however, it is not a requirement for success. Because telephone jacks are often located some distance from the center of a classroom, telephone extension lines up to 100 feet are recommended for easy movement of the system.

Preliminary audio tests should be scheduled with the instructor and remote sites at least three weeks prior to the beginning of the course. This will provide an opportunity to check audio quality at each site, particularly interactive dialogue between sites. Depending upon the geographical location of each remote site, the telephone line may be either very weak or very strong. Having prior knowledge of this will assist the instructor during interactive periods. More importantly, this test will verify that all equipment is working properly and provide sufficient time for the sponsoring institution to replace components that may be defective.

A final test should be conducted on the first class day, perhaps as an orientation session to the course. For most students, this will be their first exposure to audioconference technology and many will be apprehensive about using the system. During the orientation session, students should practice speaking over the system through activities such as introducing themselves or just engaging in general conversation. Ensuring that all equipment is working properly and that all student feel relatively comfortable participating on the system will have a lasting impression on adult students.

General Administrative and Instructional Strategies

Adult students arrive at the first audioconference class with a broad range of experiences. They usually have preconceived expectations of the practical benefits of a course and are motivated to infuse new learning into their daily personal and professional lives (Brookfield, 1986; Knowles, 1984). Students and instructor will continually challenge each other's ideas and values throughout the course just as they would in a traditional, face-to-face classroom setting. Getting students to overcome "mike fright" may be the only major obstacle to developing a collaborative rapport with each other and the instructor.

Integrating major principles of learning theory is a challenging and often difficult process even in the traditional classroom (Cross, 1982; Moore, 1987; Wilkes & Burnham, 1991). Audio teleconferencing, lacking a visual component, presents a greater challenge for instructors. The following strategies are designed to assist administrators, faculty and facilitators engaged in distance learning via audio teleconferencing.

1. Educate about the technology, not just through the technology. If students are expected to interact with each other and the instructor through the technology, they need a basic understanding of how the medium works. Information handouts and relevant articles can be provided to students prior to the first class session. Most audio teleconferencing companies have information brochures that describe the technology. Many articles have been written about its use in distance education. Instructors are reminded to secure *copyright permission* when articles are copied and distributed.
2. Plan several activities for the first class session that involve students in the audioconference format. During the first session, plan to spend time just allowing students to talk. Students can introduce themselves, ask questions about the delivery medium or the course, or just make a comment about distance education in general. More importantly, have fun during the first class. Establishing a comfortable climate

for student interaction is essential. If students don't feel secure using the system, they won't use it during class sessions. Encourage students to always identify themselves by name and site location each time they interact over the system. This will become second nature to most students if practiced from the beginning of the course.

3. The importance of good site facilitators cannot be emphasized enough. These facilitators are an invaluable resource for both the distance teacher and the students. They are the vital link between the two and often serve as the "eyes" of the instructor. Plan a 2 to 3 hour training session with coursefacilitators (by audioconference) at least two weeks prior to the first class session to discuss their on-site responsibilities. A site facilitator handbook is also recommended for referral throughout the course. Site facilitators may have responsibilities ranging from coordinating classroom variables such as room temperature and seating arrangements to facilitating small group discussions and proctoring exams when students are off-line. A few hours of quality training for your facilitators will make a difference in a distance learning class.
4. Ensure that instructional goals and corresponding activities are reviewed by an instructional design professional familiar with distance education. Feedback from a professional will result in a number of useful strategies and will point out any problems with course structure.
5. Depending on the number of remote sites, having the instructor teach from extended sites is recommended. This will allow students to identify visually with the instructor and will demonstrate a commitment to the learning process. It is important to note, however, that a site visit to each location is not mandatory for course success. If the course is provided to 10 or 20 sites, it will unrealistic for the instructor to visit each site during the academic period, particularly if the sites are geographically separated by considerable distance. Photographs of the instructor, a short "welcome" videotape of the instructor, and/or sharing personal information can help students feel closer to their teacher. Many college students have been in traditional classes of over 100 students

and never knew anything more about the professor than his or her name and office location. An audioconference course can do better so be creative!!!

6. Provide students with a set of written materials that include the following: course goals and objectives, course syllabus, mailing procedures for course assignments, off-line instructor office hours, student evaluation criteria, and alternative library services. Instructor comments, course assignments, and handouts may also be included for students in a study guide. The study guide gives the students a feeling of cohesiveness with the rest of the class.

Recommended Instructional Strategies

Faculty often need specific instructional strategies for ensuring effective audio teleconferencing instruction. The following are additional tips for instructors who teach by audioconference:

1. Plan to provide self-directed learning opportunities for students (Brookfield, 1986; Cross, 1982; Knowles, 1984). Encourage students to work in small groups, with some group members at another remote site. This task may seem difficult to accomplish given the delivery style of the course. However, through small group audioconferences or electronic mail services, such as Internet, students are able to accomplish many types of group activities. Site facilitators can serve as resource persons for these projects. For example, the facilitator can help coordinate the small audioconferences, or perhaps arrange for students to receive Internet accounts for electronic transmissions.
2. Because audio teleconferencing is new to many students, instructors must pay particular attention to the pace of the instruction. Provide positive reinforcement and feedback regularly, as well as periodic reviews of material covered in previous

sessions. Students should be encouraged to provide feedback to the instructor periodically, as well.

3. Instructors should develop a few important questions each week for students to consider for discussion the following week. This engages students in critical reflection and encourages them to consider alternatives (Brookfield, 1986). If possible, request that students correspond with other students during the week, via Internet, to discuss how their own ideas are applicable to current practices, and how other students' ideas can influence their own.
4. Mutual respect for varying perspectives and individual differences should be stressed as an essential theme of the course, regardless of content. Adult learners bring a vast array of experiential learning to class that is an invaluable resource. Instructors must be supportive of all students, emphasizing that diverse and even conflicting perspectives and ideas are valued in the adult learning process. Collaboration, critical reflection, mutual respect and opportunities or self-directed learning will enhance the adult student's commitment to a process of lifelong learning (Brookfield, 1986; Cross, 1982; Knowles, 1984).

The goal of audio conferencing, like other instructional systems, is to produce high quality interaction, facilitate student autonomy and interdependence in the learning process, and foster a commitment by faculty to a qualitatively rich learning experience (Burge & Howard, 1989; Garrison, 1990; Moore, 1994a; Moore, 1994b). The previous instructional strategies are grounded in existing theory and yet derive their potential from applied approaches. In summarizing their importance, Garrison (1990) writes:

Replacing the teacher with a package of course content does not make learning more student-centered. It simply risks making learning more private and therefore less likely to transform the views and perspectives of the learner in a positive development manner. (p. 14)

... we respond that it is the teacher who must guide the student in determining the appropriate content and level with regard to the student's prerequisite knowledge and abilities; it is the teacher who questions and challenges pre-existing views and values; it is the teacher who helps the student assimilate and accommodate this new experience and validate the knowledge gained. (p. 33)

Distance education will continue to struggle with balancing student-centered and teacher-centered approaches in the learning process (Dillon & Walsh, 1992; Moore, 1994b). Moreover, the integration of proven approaches whether student or teacher-centered will result in a learning environment that reflects a qualitatively rich educational experience for all students. Dillon and Walsh (1992) summarize this challenge. They write:

As the needs of students change so do the roles of faculty. The issue of ownership is crucial in the development of distance education, for we should never allow the technology to "drive" the content. Likewise, the academy has a responsibility to shift from a faculty centered to a student-centered educational system. The studies of effective distance teaching find that faculty who make this shift are not only more successful distance teachers, but also more successful classroom teachers. (p. 17)

Summary

When is audio conferencing a viable instructional approach? What are the advantages and limitations of this medium? Audio conferencing should be considered when a particular audience has an immediate and compelling need for instruction, and when the availability of traditional instructional approaches is limited. This medium is economically commensurate to face-to-face and instructional television (usually less costly), and can reach many students simultaneously who may be geographically isolated and lack access to traditional educational services (Moore, 1994a; Olcott, Hardy, & Boaz, 1992).

Moreover, the simplicity of the system allows a remote site to begin participating in a course immediately. And, because the system utilizes low-end technology, a technician is

not required to operate the equipment. Another advantage of audio teleconferencing is portability (Moore, 1994a) Instructors can conduct class from any location equipped with a telephone, and guest speakers can address classes conveniently from their homes or offices.

Beyond the obvious advantages associated with audio teleconferencing, there are benefits to the students and the instructors who utilize this system. Through audio teleconferencing, the host organization is able to "electronically assemble a class of students who may interact not only with the teacher but with each other" (Garrison, 1990, p. 15). Audioconferencing moves distance learning away from being an independent and isolated form of learning; it approaches the interactive level of an on-site educational experience (Garrison, 1990; Moore, 1994b).

Moore (1989) suggests that we often overlook an important form of interaction in distance education: learner-learner interaction. He argues that this type of interaction is a fundamental part of all distance learning experiences, and that distance education providers must recognize the value of students interacting in an on-site classroom as well as in an electronic classroom.

Moore (1994a) summarizes the advantages of audio teleconferencing. First, it is student-centered, interactive and provides easy access to experts and off-line student-content/student-student interaction. Second, it is low cost, easy to use, and requires no production staff. Third, audio teleconferencing is dependable and phones are reliable. Fourth, audio teleconferencing is flexible. Instructors can teach virtually from anywhere and off-line activities can be integrated into the process when it is pedagogically necessary. Finally, this medium can be easily integrated with other media provided the technology is dependable, an instructional design expert is available, faculty receive effective training, and local support services are efficient. Moore (1994a) summarizes the pedagogical goal of audio teleconferencing. He writes: "If courses are well designed and interaction is well

conducted, distance education based on audio teleconferencing will be cost effective and efficient" (p. 4).

The major limitation to this medium is that it is audio only. Without a video component for students to visualize, facilitating interaction requires competent, creative and trained faculty who can maximize their teaching talent and utilize their site facilitators effectively. Audio teleconferencing *may* place limitations on the use of multiple instructional formats. However, site facilitators can provide the instructor with the flexibility to facilitate group activities and exercises so that the dominance of the lecture format is reduced. Despite these limitations, it is a valid truism in distance education that students are more likely to evacuate the classroom if the audio goes out, regardless of quality and sophistication of the video production.

Through careful planning and design, audio teleconferencing can be a viable and cost-effective instructional delivery medium (Moore, 1994a; Olcott, Hardy, & Boaz, 1992). The strategies discussed in this article are common to most distance learning programs, regardless of the delivery medium. However, because audio teleconferencing lacks a video component, the strategies should be of central focus during all phases of the instructional design, development and delivery.

The introduction of new communications technologies will provide faculty with a broad spectrum of alternative approaches for facilitating adult learning in the future. Audio teleconferencing is not for everyone, nor is it instructionally compatible with every distance learning program. Its long term importance may be that it will stimulate creative, new multi-media approaches to distance learning. Distance learning, like traditional face-to-face instruction, must continue to explore new approaches for integrating learning theory, telecommunications media and instructional design into the adult learning process.

Chapter 7

A Faculty Support Model for Integrating Distance Education in Postsecondary Institutions

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Introduction

The accelerated development of distance education programs across the academy will require a renewed commitment to its most important resources, faculty. Advances in technology afford institutions unique opportunities to deliver education and training programs to geographically diverse adult audiences. And yet, instructional quality and control, improving learning, and the aggregate effectiveness of distance education rest with the faculty.

The purpose of this paper is to present a faculty support model for integrating distance education in postsecondary institutions. The conceptual origins for this model are discussed within the context of (a) distance education's congruency with traditional academic norms, and (b) commonly identified barriers affecting faculty participation in distance teaching. A delineation of the faculty support model (see Figure 7.1) is followed by a summary of recommendations for promoting faculty and institutional adoption of distance education. This paper addresses four questions.

1. Are traditional academic practices, principles, and/or values congruent with integrating distance education in postsecondary institutions?
2. What barriers affect faculty participation in, and adoption of, distance teaching?
3. What are the essential elements of an institutional faculty support model for integrating distance education in postsecondary institutions?
4. What proposed recommendations and strategies will promote faculty participation in distance teaching?

Distance Education and Academic Culture

The conceptual basis for faculty resistance to distance teaching is centered around the premise that distance education and traditional academic practices, principles and values may lack congruency. A second assumption asserts that when viewed from an innovation

diffusion framework, the attributes of distance education may be perceived by faculty as offering few advantages, as being inherently complex, and as being incompatible with normative academic practice. To provide a clearer understanding of the dichotomy between distance education and academic culture, a brief synthesis of two theoretical frameworks is necessary: organizational culture theory and diffusion of innovation theory.

Essential Elements of Organizational Culture

Organizational culture is a system of shared values and beliefs about the organization. These values provide meaning to organizational members regarding what principles, practices, and values are important; and the behavioral norms that are often unwritten and yet expected in support of these basic components. Simply stated, organizational culture is the way things are done in a particular organization (Deal & Kennedy, 1982). The meaning, importance, and acceptance of these shared values by individuals may or may not be congruent with that of the organization (Peters and Waterman, 1982).

A second component for understanding organizational culture is symbolism. This refers to the rituals, myths, traditions, and language through which organizational values, their meaning, and the associated behavioral norms are passed on from one generation of the organization to another (Deal & Kennedy, 1982). Peters and Waterman (1982) suggest that ". . . in an organizational sense, these stories, myths, and legends appear to be very important because they convey the organization's shared values or culture" (p. 75).

A strong organizational culture implies an underlying commitment to the holistic development of organizational members (Deal & Kennedy, 1982). This organizational commitment is probably dependent upon the degree to which members accept and adhere to organizational values. The commitment by the organization to its members presumes that members adhere to the core practices, principles, and values embraced by organizational

leadership. Moreover, the organization's commitment to its members is likely to be proportional to the members' commitment to the organization. This involves a "mutual acceptance" and belief in the "shared values" of the organization. Though individual growth and development are indicative of strong organizational cultures, those members who resist the socialization process and deviate from the core values may find themselves alienated and in conflict with the organization and other members.

The origins of a strong organizational culture are embedded in an organizational philosophy that provides cohesiveness to the organization and its members. Ouchi (1981) states: "A philosophy gives people a sense of values to work and live by, and it suggests ways for the organization to behave in response to its people, its clients, and the community it serves" (p. 101). A concise, clear organizational philosophy creates the guiding force for developing a proactive culture that binds an organization and its members. It can also be a powerful socializing force that can lead to teamwork and trust. A strong organizational philosophy is essential for creating an optimum organizational culture by giving meaning to the shared values and corresponding behaviors (Deegan, Steele, & Thielen, 1985).

Finally, strong organizational cultures are characterized by transformational leaders who are instrumental in shaping culture (Peters & Waterman, 1982). This essential leadership role is not new to organizational theorists. Barnard (1968) articulated the role of the executive in the development of shared values in an organization: "The essential functions are, first, to provide the system of communications; second, to promote the securing of essential efforts; and third, to formulate and define purpose" (p. 217). The transformational leader creates organizational purpose and empowers members to feel ownership in the shared values, symbols, and philosophy or mission of the organization (Burns, 1978).

In summary, organizational theorists have proposed that successful organizations possess basic core values that guide organizational and individual behavior (Barnard, 1968;

Burns, 1978; Deal & Kennedy, 1982; Ouchi, 1981; Owens, 1987; Peters & Waterman, 1982; Schein, 1985; Tierney, 1988). Interwoven among these core values is the loose tight-principle (Peters & Waterman, 1982). This principle suggests that as long as organizational members behavior is generally aligned with organizational values, individual creativity and innovation are supported. When individual or subunit behavior moves outside the realm of these core values, the organization "tightens" as a response to guide behavior back to the core value matrix. In other words, organizational resistance (e.g., university, faculty, etc.) increases in response to innovations (e.g., distance teaching, etc.) that threaten the core values of the organization.

The theoretical tenets of organizational culture suggest that postsecondary institutions are characterized by a set of basic practices, principles, and values that are embraced by the faculty and the institution. Commonly referred to as the "academic culture" (Owens, 1987), this concept may be defined as:

...the shared values of the institution that guide organizational and individual behaviors, provide meaning to faculty, staff, students, the public and administrators, and communicate the basic philosophy of the institution through traditions, rituals, language, and formal and informal communication channels. (Olcott & Dunham, 1991)

What are some of the shared principles, practices, and values for institutions of higher education? Drawing upon the work of Owens (1987) and Tierney (1988), these may include the following:

1. Faculty are the embodiment of the academic mission and are an institution's most valuable human resource.
2. The "academic mission" (e.g., teaching, research and service) is the central philosophical value of the institution.
3. Academic freedom, instructional quality and effectiveness, curricular control, classroom autonomy, intellectual property rights, academic residency, and promotion and tenure are perceived as central values and practices by faculty.

4. Discipline specialization for the creation, dissemination, and application of existing and new knowledge characterizes most postsecondary institutions.

These principles, practices, and values are not all-inclusive and the priority of individual values varies across institutions (e.g., community colleges, research universities, regional four-year colleges, etc.) and respective subunits (e.g., engineering, education, business, arts and sciences, etc.). These values are, however, commonly advocated by faculty and administrators to guide organizational and individual practice. They are often defended by faculty and are resistant to innovative change (e.g., distance teaching) that challenges their permanency and legitimacy.

Diffusion of Innovation Theory

Distance education is new to many administrators, faculty, and students whose only instructional reference is traditional face-to-face pedagogy (Olcott, 1991). Moreover, any innovation perceived as "new" creates uncertainty and resistance for those affected by the innovation.

Rogers' (1983) theory of innovation diffusion suggests that the attributes of an innovation affect the subsequent degree and rate of adoption. Innovation attributes include:

1. Relative advantage of the innovation.
2. Complexity of using or diffusing the innovation.
3. Compatibility of the innovation with existing structural systems and values.
4. Trialability of the innovation to be tested on a pilot basis.
5. Observability of the innovation to assess effectiveness and acceptance.

Theoretically, innovations that are perceived to have multiple advantages, are easy to use, are compatible with structural systems and values, and can be effectively pilot tested and observed will be adopted more readily than innovations lacking optimum attribute characteristics.

The adoption of distance education by postsecondary institutions may be enhanced by an advocacy approach that integrates organizational culture and innovation diffusion theories. Three assumptions are essential to this integrated approach. First, faculty are the critical resource for distance education adoption. The major issues to be resolved center around faculty.

Second, traditional academic principles, practices and values and distance education lack congruency. For the assimilation of distance education to occur, the institution (and faculty) must adapt or accommodate distance education, distance education must realign its principles and practices for institutional adoption, or both the institution and distance education must adapt (reciprocal adaptation).

Third, distance education's potential for institutional assimilation and adoption depends on enhancing the innovation attribute characteristics so that distance education is perceived by faculty as offering multiple advantages, as being easy to use, and as being compatible with traditional academic norms. The key point is that the institution, distance education systems, or both must adapt to create an environment where academic norms and new teaching and learning systems are mutually compatible.

Barriers to Faculty Participation and Adoption of Distance Education

Presuming a resurgent role for faculty, institutional leaders are reassessing the consistency of distance learning with traditional academic practice. An important issue that affects faculty participation has little to do with technology. Rather it is the perception by faculty that the team approach to designing instruction for distance teaching may undermine the faculty member's autonomous role. The literature on this issue provided some revealing, if contrary, views. Grossman (1987) discusses the potential of distance learning to remove faculty from their key position in the instructional process and compromise classroom autonomy, curricular control, and by extension, academic freedom.

He writes:

The fact is that instruction is a creative, dynamic process which has an impact upon the life of the mind and the research of any faculty member. Removing productive faculty from the processes of instruction is to diminish the quality of the instructional enterprise of the institution. This, perhaps, idealizes the role of faculty and centrality of instruction at the modern university. (p. 6)

Grossman is concerned specifically with the adoption of externally produced courses and yet raises an important question for locally produced distance learning programs: What is the role of the faculty member in distance-delivered courses? Today it is common practice to approach mediated instruction as a collaborative process: content specialist (faculty), instructional designer, and technical production staff. Grossman suggests, however, that the preeminent role of faculty in instruction can be submerged in the process. He states:

Faculty who embark upon course development for technological delivery are often in for a rude awakening. They find that they are submerged in the course development process, taking a back seat to production and technical personnel. Faculty are relegated to the role of content consultant while the media course takes on a life of its own. With considerable investment and risk the funding agency or media producers take charge leaving the faculty member identified in name with the course, but in fact, only an adjunct to its development. As is often the case, faculty defer to the media people who are expert in the production processes, with the result that with the increasing erosion of faculty authority, the course is no longer reflective of the faculty minds. (p. 9)

Grossman posits a view which sees distance education requiring faculty to cease being the creators of instruction. Instead they will become managers of resources and students and, in the process, be deprived of a creative instructional role.

Grossman's concerns are valid but by no means definitive. At the heart of his argument is the basic premise that the disadvantages of altered faculty roles in distance teaching outweigh the advantages. Strain (1987) acknowledges that Grossman has perceived what has subsequently been echoed by other distance learning professionals (Beaudoin, 1990; Catchpole, 1992; Dillon & Walsh, 1992; Duning, Van Kekerix & Zaborowski, 1993; Gunawardena, 1990; Purdy & Wright, 1992; Smith, 1991): "The role

of faculty changes when making the transition from classroom teaching to teaching distance students" (p. 63).

Strain draws upon the works of Wedemeyer (1981) and Peters (1983) to assert that the changing roles of faculty are necessary and advantageous. He cites:

What is different about learning via technology today is the scope of learning facilitated by technology, the altered roles of teachers and learners, the changed environment for teachers and learners, the changed environment for learning necessitated by technology, and the sophistication of the process used in developing instruction that will be communicated by technology. (Wedemeyer, 1981, p. 111)

As tutors and consultants have largely been relieved from the task of conveying course matter, they are able to devote themselves to a considerable degree to more demanding tasks, such as aiding motivation, providing individual support, structuring course content for students, identifying problems and establishing connections. (Peters, 1983, p. 108)

At first glance, Grossman's and Strain's views may appear divergent and at opposite ends of the continuum. To the contrary, they both reflect basic assumptions about the relationship between distance education and traditional academic values and practice. Grossman astutely recognizes that relinquishing curricular control, classroom autonomy, and academic freedom in the instructional process subverts traditional academic principles. McNeil (1990) reported that leading policy analysts identified a number of areas where distance learning lacks compatibility with traditional academic values. These included the collaborative team approach to designing distance learning instruction, diminished faculty authority, faculty removal from intellectual property control, and even concern about the threat to faculty jobs.

Similarly, Strain asserts that distance teaching does in fact alter faculty roles and that these changes can empower a faculty member to enhance his or her primary instructional objective: to improve the quality of teaching and student learning. In the final analysis, Grossman and Strain are both concerned about the same issues, simply from different perspectives.

Distance learning, conceptualized within the mainstream academic mission, places locus of control for the instructional process with faculty. Moreover, distance learning can enhance a renewed, if altered, view of the boundaries (and flexibility) of academic freedom, curricular control, classroom autonomy, discipline specialization, and academic quality. Perhaps it is instructive to consider that the majority of distance learners are adult learners who require different instructional roles from faculty. The literature is significant and indisputable on this point (Brookfield 1986; Knowles 1984).

The changes facing higher education suggest that the academic mission and traditional core values of the academy must become more flexible without compromising the integrity and instructional roles of faculty. Dillon and Walsh (1992) succinctly summarize this point:

As the needs of students change so do the roles of faculty. The issue of ownership is crucial in the development of distance education, for we should never allow technology to "drive" the content. Likewise, the academy has a responsibility to shift from a faculty-centered to a student-centered educational system. The studies of effective distance teaching find that faculty who make this shift are not only more successful distance teachers, but also more successful classroom teachers. (p. 17)

Distance education is an alternative to traditional pedagogical practice that must be framed within the context of the mainstream academic culture and its values (Wagner & Elms, 1993). Moreover, its capacity to be integrated into the mainstream academic culture can be reduced to a fundamental question: What is the extended mission of the institution and its academic units; and how can distance learning enhance those missions, support and reward faculty, and maintain academic standards and quality in a cost-efficient manner? Answers to this question will determine which institutions will be strategically positioned in the educational marketplace to deliver courses, programs, and training at times and locations convenient for adult learners. The twenty-first century institution will be driven by student needs rather than by traditional institutional practice.

A second area affecting faculty participation in distance teaching is inadequate compensation and incentive structures. Common distance teaching compensation and incentive issues include applicability toward promotion and tenure, release time, instructional and administrative support, monetary compensation, teaching load, and training (Clark, 1993; Dillon & Walsh, 1992; Koontz, 1989; Olcott, 1991, 1992, 1993; Wagner & Elms, 1993; Wolcott, 1993). As crucial as these issues appear, it is surprising how often they become lost in the distance education administrative process only to reemerge as salient barriers to facilitating faculty participation. A review of selected literature may be instructive to the reader.

Clark (1993) reports that faculty perceptions of institutional rewards for distance teaching are mixed at best. Moreover, many faculty perceive distance teaching as "less rewarding, offering fewer career advantages, and as less scholarly than other teaching activities" (Dillon & Walsh, 1992, p. 10). Olcott (1991) writes:

To what extent will distance teaching apply towards promotion and tenure? Most faculty will pursue activities that contribute to professional advancement. In academia, professional development is often synonymous with promotion and tenure. Embarking on an endeavor such as distance teaching without providing appropriate recognition towards promotion and tenure will deter faculty participation. Institutions and individual academic units may need to modify existing criteria and delineate how distance teaching will apply toward promotion and tenure. (p. 56)

Perhaps unsurprisingly, related issues such as release time, administrative and instructional support, monetary compensation, teaching load, and training are affected by institutional and academic unit prioritizing of distance teaching, which in turn is related to faculty perceptions of "rewarded" activities toward promotion and tenure. Institutional support is critical for mainstreaming distance teaching into the academic culture and yet the research suggests that many institutions view distance teaching as peripheral to the mission of the institution (Dillon & Walsh, 1992).

Gellman-Buzin (1987) writes:

Telecommunications will not succeed in any organization without top-level administrative support. Those colleges that lead in the technological marketplace have presidents who are convinced that telecommunications is good for the institution *and* for the President. (p. 80)

Equally important is support at the departmental level (Gilcher & Johnstone, 1989). Previous studies clearly suggest that academic departments must integrate distance teaching into on-going unit budget policies; and promotion, tenure, and merit policies (Dillon, 1989; Gunawardena, 1990; Kirby & Garrison, 1989). Given the increasing importance of this role, it is likely that departmental and divisional chairpersons will be the most influential advocates of distance teaching as a valued endeavor that is supported and rewarded at a level commensurate with traditional instructional activities (Clark, 1993).

There is a key point to be made here. Promotion and tenure, as an integral component of traditional academic culture, essentially defines what activities are rewarded, and thereby indirectly determines the degree of support (e.g., monetary, release time, training, instructional and administrative resources, etc.) that the institution, the academic unit and support organizations (continuing education and media center) budget and allocate for distance education programming.

The aggregate effect of these institutionally embedded disincentives is that they deter faculty participation and adoption of distance teaching. There are, however, other issues that create additional barriers. These include increased workload, lack of time, reduced student interaction, less spontaneity, and technical and administrative problems such as poor audio quality and distribution of course materials (Clark, 1993; Dillon & Walsh, 1992).

The issue of maintaining academic quality is a universal concern among faculty, students and administrators (Clark, 1993; Koontz, 1989; Olcott, 1991). Faculty are particularly concerned about the quality of interaction, socialization and affective

development, and availability of college-level resources such as library and computer access (Clark, 1993). The perception among faculty of a diminished instructional role may be the most pervasive barrier to participation in distance teaching (Grossman, 1987).

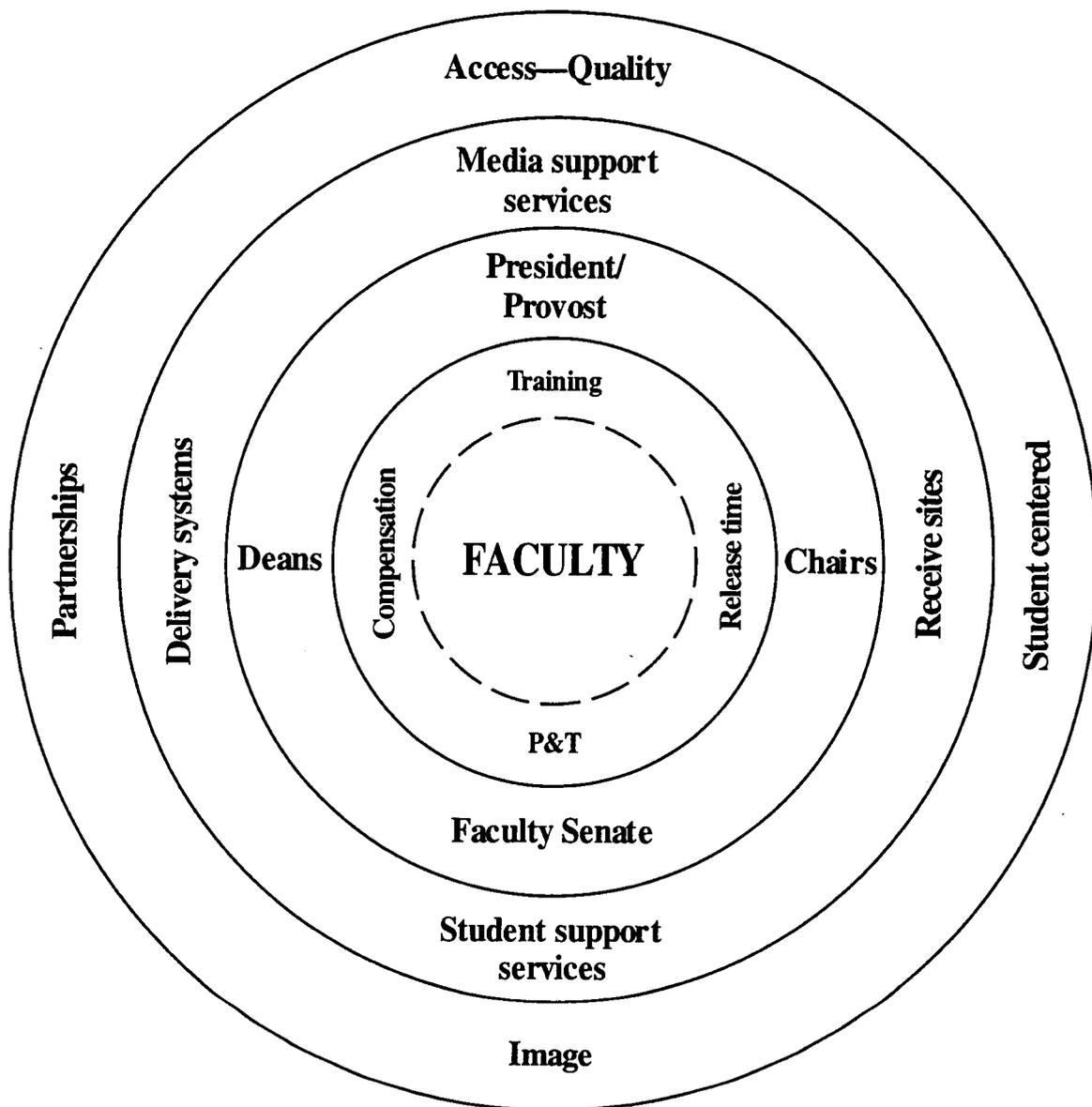
And yet, those faculty who have been involved in distance teaching realize that those who perceive a diminished instructional role for faculty have it all wrong. Based on her distance teaching experiences at the University of New Mexico, Charlotte Gunawardena realized that she needed to make fundamental changes in her instructional role - from that of a teacher standing in front of the classroom, at the center of the process, to that of a facilitator whose role is to support and guide the learning process. Gunawardena reports that she is now involved in guiding learner initiated inquiry and exploration rather than knowledge transmission (Purdy & Wright, 1992). This would seem to indicate not a diminished role for faculty when teaching at a distance but rather a role premised on the establishment of mentoring relationships with students.

A Faculty Support Model

Figure 7.1 provides a conceptual framework for designing an institutional support system for distance teaching faculty. At the core of the academic process is the faculty. Moreover, this model emphasizes the importance of all support areas to the delivery of high quality instruction that enhances student-centered learning.

The second concentric ring indicating the president/provost, deans, department chairpersons and faculty senate emphasizes administrators' importance in affecting common compensation issues and setting the tone of the academic culture's receptivity to distance education across the institution. Their position adjacent to the inner circle of faculty issues accentuates administrators' critical role in resolving these issues and serving as advocates for their faculty.

Figure 7.1
Faculty Support Model



Presidents, vice presidents, and provosts control resources and establish policy agendas that impact the perceived importance of distance education, particularly its value as an academic endeavor and its consistency with the academic mission. Deans and departmental chairpersons allocate resources, schedule and approve teaching assignments (inload and overload), and informally establish those academic activities that will receive financial support and be rewarded in the promotion and tenure process. Departmental chairpersons play an equally important role in granting release time and providing support for faculty training. The faculty senate's primary role is reviewing institutional policies pertinent to promotion and tenure, the delivery of extended programs via telecommunications, and the ramifications of distance education on institutional and program accreditation.

It is important to recognize that the above constituencies determine the perceived value and priority of distance learning across the campus. Media services and continuing education units typically responsible for administrative and instructional support services accommodate instructional needs based on the importance given distance learning within the mainstream academic culture. Media services personnel provide the technical expertise for faculty to select alternative delivery systems and coordinate instructional design processes. The media service department is often responsible for developing and administering faculty training programs for distance teaching faculty.

Continuing education or distance education units, in cooperation with academic units, typically manage a range of administrative and student support services. These may include course registration, financial aid, advising, receive site coordination, faculty compensation processes, and the distribution of course materials and assignments between receive sites and the faculty member.

Faculty who are properly trained in distance teaching techniques and technologies, and who are compensated and rewarded for their distance education activities exemplify an institutional commitment to expanding educational access via distance education.

Underlying the centrality of faculty to this model is a collaborative partnership approach involving the aforementioned professionals and organizations. The primary goals of this partnership are to enhance educational access, maintain recognized standards of academic quality, and contribute to the mission and image of the institution. Each member of the partnership plays a pivotal role in the distance education enterprise.

In summary, distance education is a collaborative institutional effort manifested through its faculty and by the commitment of support services for one purpose: expanding educational access through quality instruction that enhances student learning. The application of vast new technologies to the task of teaching and learning provides today's educators with many potential solutions to age-old educational problems. But technologies, in and of themselves, are only a means to an end. It is in the realm of human resource, policy, and compensation issues that will determine the long-term success of distance education. People are distance education's most valuable resource.

The challenge facing those committed to distance education is to achieve a balance between the utilization of advanced technologies and the development of the appropriate human resources. Faculty are synonymous with the mainstream academic culture. Without well trained and equitably rewarded distance education faculty, there would be no programs. The efficacy of distance education, like all instructional programs, is to enhance the instructional effectiveness of faculty and improve the quality of student learning.

Recommendations and Strategies To Promote the Adoption of Distance Education

1. Recognize that the mainstream academic culture determines the efficacy of integrating distance education into the mission of the institution.
2. Develop a conceptual framework for facilitating change in postsecondary institutions.
The organizational culture - innovation diffusion framework provides an advocacy

- approach from which to begin addressing the complex and diverse issues that affect faculty and institutional adoption of distance education.
3. Emphasize the advantages of the distance education process rather than the technology when communicating with faculty. Faculty are more concerned with human resource issues. Be prepared to discuss how altered faculty roles in distance education can be a positive process (e.g., more time to individualize instruction, enhanced instructional organization, improved quality, opportunities for research and publication in distance teaching, etc.). This presumes, of course, that the advocate understands the academic culture, its values, and the typical demands placed on most faculty relevant to what their academic units value and reward. Do your homework!
 4. The perceived advantages of the use of technology in education in concert with the human resource issues can dramatically facilitate faculty participation. Mistakenly, past advocates have focused on the technology as the innovation when, in fact, the innovation is the practice and process of teaching at a distance.
 5. Participate in activities and engage in roles that are valued by faculty and the academic culture. Serve on faculty committees, co-publish an article with another faculty member, or consider teaching a distance learning course yourself. Your credibility among faculty is critical to your capacity to facilitate receptivity to distance teaching. The old adage that "I'm a practitioner" carries little influence among faculty. Besides, the diverse roles of today's faculty probably give them more right to the "practitioner" label than professionals in continuing and distance education or media services.
 6. Market your faculty as well as your programs. Place faculty at the core of your programmatic initiatives. Allow the distance education delivery method to showcase your academic strength and facilitate the learning process.
 7. Court your department chairpersons and deans. They control resources, reward faculty, approve release time, and play perhaps the most important role in promotion and tenure. They affect participation and acceptance of distance teaching and may be

the most important influence on the future expansion of university distance teaching. Remember that high-level institutional policies are not simply a top-down process. These policies and priorities at the presidential and provost level evolve through communications with deans, chairpersons, the faculty senate, and students. Distance education is truly a partnership endeavor involving institutional faculty and administrative support units at all levels.

8. Create a comprehensive faculty development program to promote the realization of the aforementioned goals. Stage faculty workshops and forums to showcase the work of pioneering faculty involved in distance teaching. Develop a cadre of exemplary faculty-eagles to share their experiences with interested faculty novices to the field. Create electronic networks and newsletters to share information regarding various applications of technology to educational needs. Establish awards to recognize outstanding achievement in teaching and learning at a distance. But whatever you do, apply resources to a faculty development program. A faculty development program will reap benefits for faculty and the institution alike.
9. Disseminate distance education research, publications, and models to chairpersons, deans, faculty and administrators. These professionals tend to be more receptive to materials written or created by their peers. Moreover, experienced distance teaching faculty are the most important advocates for attracting new faculty.
10. There is simply no substitute for patience. Distance education is still in its infancy in many ways. Develop realistic expectations and engage in a strategic planning process. It took 20 years to get the overhead projector out of the bowling alley and into the classroom. Distance education takes time and patience.

Summary

During an era of unprecedented societal change, institutional restructuring, mission ambiguity, public accountability, and fiscal retrenchment, the academic mission personified through the resilience of its faculty remains instrumental for meeting these imperatives. The parallel, of course, is that a renewed commitment to faculty gives equal credence to the other side of the academic equation: improving and enhancing student learning that has theoretical and practical relevance to function effectively in an information-based society.

Several manifestations of a renewed commitment to faculty permeate education at all levels. At the K-12 level, school restructuring that emphasizes competency-based outcomes dominates the agenda across the country (Bonsting, 1992; Deal, 1990). Community colleges are fostering 2 + 2 Tech Prep programs with high schools, placing greater emphasis on applied academics, and are reengineering new partnerships with business, government and four-year institutions (Tangman, 1993; Walsh, 1993).

Colleges and universities are transforming undergraduate curriculum, placing renewed priority on teaching, and developing new partnerships with business and government to achieve greater relevancy between education and workforce skills (Western Interstate Commission on Higher Education, 1992). To many, the catch phrases of the 90s have become "learning organizations," "reengineering organizations," and "restructuring government" (Osborne & Gaebler, 1992; Senge, 1990).

These transformational changes in institutions ranging from education and business to government and community agencies will be implemented through the creativity and innovativeness of organizational members. Within modern education organizations, achieving these ambitious goals will be dependent first and foremost on faculty, along with efforts of support staff and administration. The challenge facing distance education is how to gain acceptance within this tradition-bound academic culture.

Distance education compels postsecondary institutions to reduce existing barriers to faculty participation by compensating, rewarding, and training faculty at levels commensurate with traditional instructional activities; and to provide instructional and administrative support services designed to ensure student access to high quality instructional programs. Within the mainstream academic culture, failure to ameliorate these human resource needs seriously limits faculty receptivity to, and participation in, postsecondary distance teaching. Institutions that satisfy these needs will simultaneously create a balance between the application of advanced technologies and the development of human resources that are necessary for ensuring instructional quality and student access to extended educational programs delivered through distance education.

CHAPTER 8

SUMMARY

The purpose of this thesis was to develop applied frameworks and strategies to facilitate the adoption and integration of distance education by postsecondary institutions. A central theme interwoven throughout these proposed frameworks and strategies was the centrality of faculty to the adoption process.

The conceptual basis for the articles contained herein were centered around two assumptions:

1. Faculty play a critical role in the integration of distance education and the major issues of resistance revolve around faculty.
2. Faculty resistance to distance teaching is primarily due to the perceived divergence or incongruence between traditional academic practice and distance education practice.

Without question, the majority of critical issues that induce resistance to the adoption of distance education revolve around faculty. An extensive review of literature provided significant evidence supporting this assertion and suggests that faculty resistance to distance teaching will continue unless these issues are resolved. The applied frameworks and strategies developed in the articles were designed as preliminary approaches for addressing these issues and facilitating faculty adoption and institutional integration of distance education.

The organizational culture-innovation diffusion framework presented in Chapter 1 is a viable theory-based approach to distance education advocacy. Its purpose in this thesis was to provide a conceptual framework from which to examine the questions presented in Chapter 1. These were:

1. Are traditional academic practices, principles and/or values congruent with integration distance education in postsecondary institutions?

2. What traditional institutional practices, principles, and values must be addressed to facilitate the integration of distance education by postsecondary institutions?
3. What frameworks and strategies can be proposed and applied to facilitate the integration of distance education postsecondary institutions?

This thesis has clearly shown that distance education is, in fact, incongruent with traditional academic practice and that a multiplicity of issues affect the adoption of distance education. The majority of issues center around faculty. By resolving these issues, resistance to distance education will be reduced and the compatibility of distance education with the mainstream academic culture increased.

As an advocacy approach, the organizational culture-innovation diffusion approach must be refined and developed further. Although its purpose in this thesis was in support of the critical role of faculty, it should be also noted that its further development in support of the faculty support model (see Figure 7.1 - page 128) is the next step.

The further development of this approach raises some fundamental questions. For example, how do we measure the degree (or importance) of divergence between distance education and mainstream academic practice on specific barriers or issues? What process determines whether the academy, distance education, or both make changes for assimilation to occur? How do we shape faculty perceptions toward distance education attributes that convey multiple advantages, user friendliness and compatibility with existing academic norms? Who makes these decisions and why? What frameworks and strategies will facilitate these processes? Some of these questions have been addressed in the present thesis, however, it is equally clear that more research is necessary to refine the integrated organizational culture-innovation diffusion advocacy approach to distance education.

The literature review presented in Chapter 2 synthesized the research on faculty attitudes, instructional effectiveness and student performance related to distance education. The inclusion of this review was intended to (a) establish an understanding of the complex issues related to faculty adoption of distance teaching, (b) accentuate the need for a flexible

conceptual framework (organizational culture-innovation diffusion) for approaching distance education advocacy, and (c) to provide a research basis for the articles presented in Chapter 3 through 7.

In retrospect, there was a more practical reason for this review. The research literature comparing student performance between distance learners and campus students has consistently reported no differences despite the numerous faculty and student issues and barriers affecting instructional delivery via technology.

Given that these concerns have cumulatively not been correlated to reduced performance, there exists considerable potential for distance and traditional instructional approaches to enrich the depth of learning, the quality of teacher-student interaction, and the breadth of the aggregate learning process by resolving major faculty and student concerns. In other words, these issues may serve as a catalyst for re-examining the essential characteristics of "effective teaching and learning" as well reassessing the traditional measures (e.g., GPA, etc.) of student learning. The K-12 shift towards performance or outcome-based education may soon be knocking at the doors of postsecondary colleges and universities. The old adage that people learn 10% by hearing, 20% by seeing, and 70% by doing rings true. More importantly, the focus will be directed appropriately at what comprises exemplary instruction and rich, meaningful learning. The fact that instruction is delivered face-to-face or via technology will become irrelevant.

Chapter 3 introduced five policy issues that affect participation and adoption of distance education. These included: academic quality and support services, faculty release time and instructional support, residency, inload vs. overload teaching assignments, and promotion and tenure. These issues are still prevalent among many institutions using distance education today (Dillon & Walsh, 1992). As institutions continue to expand their extended education missions, the adoption of distance education mandates that faculty be compensated, rewarded, and trained at comparable levels with traditional instructional activities.

The perception among many faculty and administrators that distance education is qualitatively inferior to face-to-face instruction is not supported by contemporary research. To be sure, academic quality must remain at the forefront of distance education instruction. At the same time, however, academic units through their departmental chairpersons and faculty peer review must embrace their responsibility for ensuring standards of academic quality, regardless of the delivery system employed.

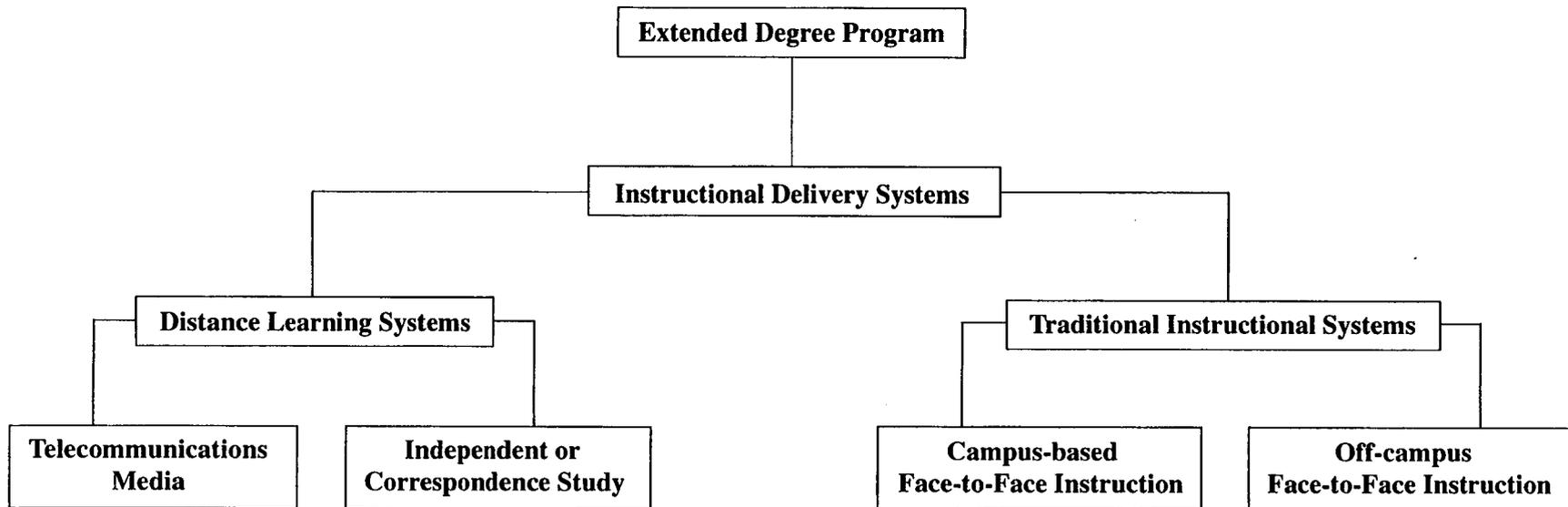
Distance teaching assigned as part of a faculty member's regular instructional duties (inload) is advocated for three reasons. First, it demonstrates the academic unit's support of the extended education mission. Second, it asserts that release time and instructional support will be forthcoming by deans and departmental chairpersons to faculty given distance teaching assignments. Finally, inload faculty assignments place distance teaching at the same level as traditional teaching, research, and service activities and its subsequent value towards promotion and tenure.

Most institutions and faculty are not philosophically prepared to abandon traditional academic practice and values to accommodate the full-scale adoption of technology to delivery extended degree programs. An integrated instructional framework (see Figure 8.1) that combines distance education systems with traditional instructional systems affords institutions the opportunity to gradually integrate telecommunications-based instruction into extended degree programs. Moreover, this approach reduces faculty resistance and increases curricular options for degree completion by students.

In their recent book, "Reaching Learners through Telecommunications: Management and Leadership Strategies for Higher Education," Duning, Van Kekerix, & Zaborowski (1993) discuss the broader context of the integrated framework. Citing Olcott (1991, p. 52), they write:

At the same time, there are a variety of policy issues at the institutional level that must be of concern to the advocate of integrating telecommunications and continuing education. Too often emphasis on technology overshadows any discussion of changes in internal academic policies to accommodate distance

Figure 8.1
An Integrated Instructional Framework for Extended Degree Programs



Notes:

1. **Telecommunications media:** Satellite, microwave, ITFS, fiber optics, computer, audio teleconferencing, cable, etc.
2. **Campus-based face-to-face instruction:** Designed to meet degree residency requirements
3. **Off-campus face-to-face instruction:** Instruction at satellite campus or other off-campus location
4. **Transfer coursework from an accredited institution may apply toward degree requirements**
5. **Off-campus face-to-face also may be classified as a distance learning instructional system**

education efforts (Olcott, 1991). This is unfortunate because the policy issues raised include such basic matters as residency, academic standards, faculty compensation, promotion and tenure, and student and faculty support services. The manager must be cognizant of these issues and their ramifications since the goal is to bring about, in Olcott's words, "an equilibrium that fuses proven traditional academic instructional systems with new learning systems." (p. 243)

This chapter concluded by introducing the academic culture-innovation diffusion conceptual framework for distance education advocacy (see Chapters 1 & 3). Olcott (1991) proposed five strategies related to institutional academic culture for distance education advocacy.

1. Advocates must understand the broader institutional mission and how each college "fits" into that mission. How can extended learning and the use of telecommunications media enhance institutional and unit mission?
2. Advocates must develop a comprehensive understanding of institutional and system procedures for the approval and implementation of extended programs. Do these procedures address the use of telecommunications media? What policy making bodies are responsible for program review and how long is the normal review process? What informal and unwritten rules affect this process?
3. Advocates must examine promotion and tenure guidelines for the institution and individual academic units. Does distance teaching carry equal value towards promotion and tenure as traditional faculty assignments? Do academic units provide incentives and support services to distance teaching faculty? How do collective bargaining agreements and other contractual documents affect faculty distance teaching assignments?
4. How are decisions made on individual campuses? Who has the power and influence?
5. Advocates should develop a thorough knowledge of available faculty and student support services. These services are critical for maintaining academic quality in extended educational programs, regardless of the instructional delivery system.

Chapter 4 examined the role of a statewide telecommunications network for increasing student access to university extended degree programs. This chapter expanded

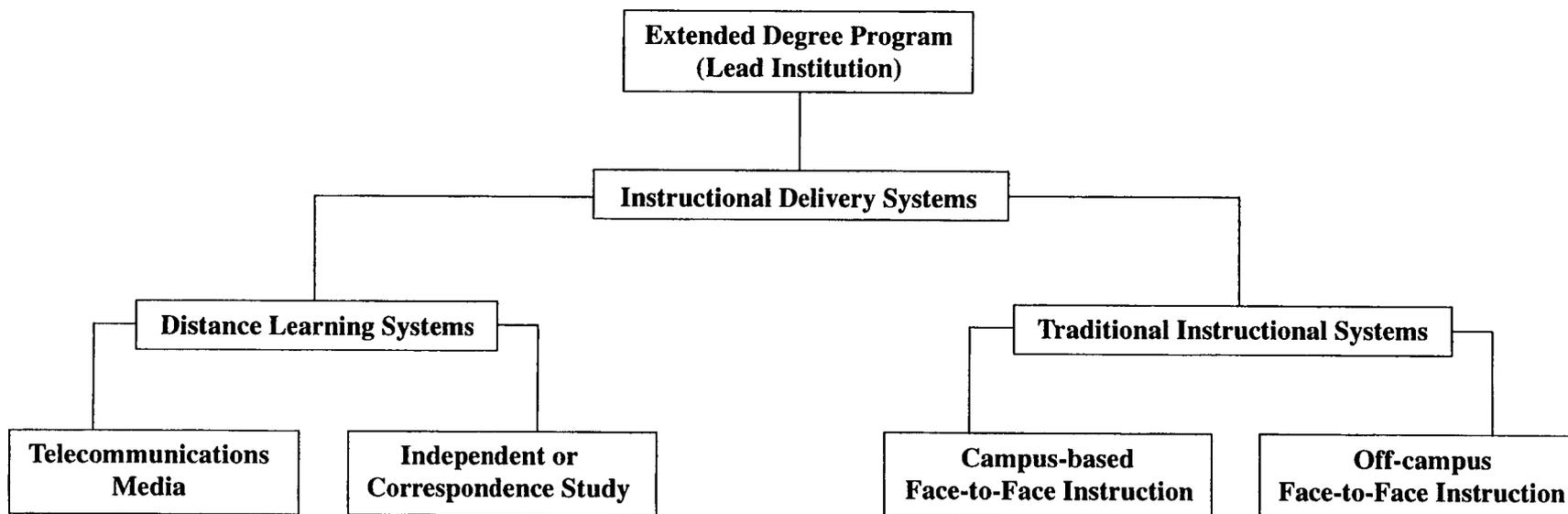
the distance education policy issue discussion presented in Chapter 3 to include more complex extended degree issues. These included: (a) program prioritization, (b) institutional curricular review and approval, (c) accreditation, (d) fee structures, and (e) articulation. The integrated instructional framework outlined in Chapter 3 (see Figure 8.1) was expanded to an interinstitutional framework (see Figure 8.2).

These policy issues, the interinstitutional framework, and the "lead institution" approach must involve faculty leadership and participation at the institutional and interinstitutional levels. Institutional curricular guidelines are typically aligned with accreditation standards. Moreover, curricular guidelines and accreditation standards for extended degree programs focus extensively on academic quality, program faculty, support services and necessary fiscal resources to sustain program delivery.

The "lead institution" approach to deliver extended degree programs will increase in the future provided interinstitutional faculty are involved in all aspects of program development and delivery. Interinstitutional extended degree programs are fundamentally centered around curriculum design, development, and delivery. Faculty are synonymous with the curricular function in postsecondary institutions and must be involved.

The "lead institution" approach, as an integrated framework, provides maximum opportunity for individual institutions to extend their most reputable programs and/or coursework cooperatively with sister institutions. Distance education delivered via statewide telecommunications networks creates unprecedented flexibility for integrating instructional delivery systems and providing students with multiple alternatives for completing degree coursework. There are many issues that must be resolved for this approach to be effective. These will be discussed in the subsequent section addressing implications for practice. Underlying the "lead institution" approach, however, is the assertion that (a) system institutions must cooperatively function as a system rather than as independent entities, and (b) interinstitutional faculty involvement for managing curriculum

Figure 8.2
An Integrated Instructional Framework for Interinstitutional Extended Degree Programs



Notes:

1. Telecommunications media: Satellite, microwave, ITFS, fiber optics, etc.
2. Independent/Correspondence study (includes telecourses)
3. Campus-based face-to-face instruction: Designed to meet degree residency requirements
4. Off-campus face-to-face instruction: Instruction at satellite campus or other designated location
5. Transfer coursework from accredited institution may apply toward degree requirements

is essential to the design, delivery, and evaluation of interinstitutional extended degree programs.

Dr. Michael Moore (1993), Director of the American Center for the Study of Distance Education at Penn State University, and an internationally recognized expert in the field of distance education, discusses the challenges of faculty curricular leadership and interinstitutional cooperation for delivering extended programs via telecommunications.

Citing Olcott (1992, pp. 22-23), he writes:

Olcott addresses the need for traditional universities to develop new course-review and approval mechanisms suitable for controlling the quality of telecommunications-based distance education programs. While his article focuses primarily on issues surrounding the approval of external degrees by telecommunications rather than on specific courses . . . his conclusion is one I would agree with: the first and primary review of quality should lie with the university faculty, and, for the faculty to do this work, administrations must provide adequate structures and procedures for the systematic review of distance education course proposals. Olcott introduces the idea of "lead institutions" to advocate the idea of integrating offerings of several institutions into a total system. He states, "The success of this approach is based on one apparently simple and yet complex premise: system institutions must function as a system rather than as a group of autonomous entities." The lead institution in such a total system has responsibility for program quality and academic standards in the limited area in which that particular institution specializes. (p. 2)

Chapter 5 synthesized the major issues and frameworks presented in Chapters 3 and 4. It emphasized the importance of aligning distance education with institution mission, the pivotal role of faculty in the adoption process, and the assumptions that support the integration of telecommunications-based instruction (see Chapters 1, 3, & 4). The chapter concluded with six recommendations for facilitating the integration of telecommunications-based coursework into institutional and interinstitutional extended degree programs.

1. Academic leaders must define how telecommunications "fits" with the institution's mission. How can telecommunications enhance institutional mission, strengthen academic programs, provide an incentives infrastructure for faculty, and benefit off-campus students?

2. Institutional leaders should re-examine administrative, faculty, student, fiscal and support issues related to using telecommunications. For most institutions, the revision of academic and administrative policies should accompany the design of extended degree programs.
3. Institutions should gradually integrate telecommunications instruction with existing delivery systems in designing extended degree programs. Most institutions do not have the human and fiscal resources nor the technical capacity to deliver entire degree programs via technology. More importantly, most institutions are not philosophically prepared to abandon traditional administrative, fiscal and academic policies to implement technology-based degree programs. Institutions typically use telecommunications to supplement existing instructional delivery systems, recognizing that most programs are a synthesis of these systems.
4. Institutional leaders should advocate interinstitutional cooperation in designing and delivering extended degree programs. The multiple resources of interinstitutional cooperation will enhance the strategic use of telecommunications instruction and provide a broader range of available curriculum to off-campus degree students.
5. The approval of an extended degree program typically requires review by an institution's curricular policy making bodies. Institutions using telecommunications in extended degree programs should initiate this process at the outset to facilitate faculty participation in extended degree programs, particularly those using telecommunications. More importantly, this approval process normally must be completed prior to comprehensive marketing and actual delivery of the program. Although these processes vary across institutions, they normally include the academic unit, the faculty senate, central administration, state system administration, and a state board of higher education or equivalent authority. They also may include other state education agencies as well as review by other system institutions to prevent duplication of existing programs.

6. Implementing an extended degree program is considered a major substantive change in an institution's mission and requires review and approval by the governing accrediting agency. Institutions should establish liaisons with the applicable accrediting agency early in the degree design process.

Chapter 6 identified critical factors for selecting audio teleconferencing as an instructional delivery system for distance education. A list of recommended instructional and administrative strategies were presented that accentuated the centrality of faculty to the integration of audio teleconferencing by postsecondary institutions.

This chapter supported the thematic focus of this thesis in several ways. First, it placed faculty at the center of the instructional process, particularly within the team approach for designing distance learning instruction. Second, the absence of a visual component in audio teleconferencing runs counter to faculty's traditional reliance on visual and verbal classroom communications. This was a primary example where a distance teaching medium was incongruent with the traditional face-to-face instructional norm of the academic culture.

Third, audio teleconferencing is embraced by most faculty when integrated into the traditional classroom format for accessing expert scholars and guest speakers. Conversely, audio teleconferencing as a "stand alone" technology induces faculty resistance and is commonly viewed at the low end of acceptable instructional approaches. Viewed from the innovation attribute perspective, the absence of video (disadvantage) and incompatibility (contrary to face-to-face norms) accentuate resistance and subsequent faculty adoption. The magnitude of this resistance appears to negate the positive attributes of low cost, user-friendliness, portability and capacity as an integrative instructional technology.

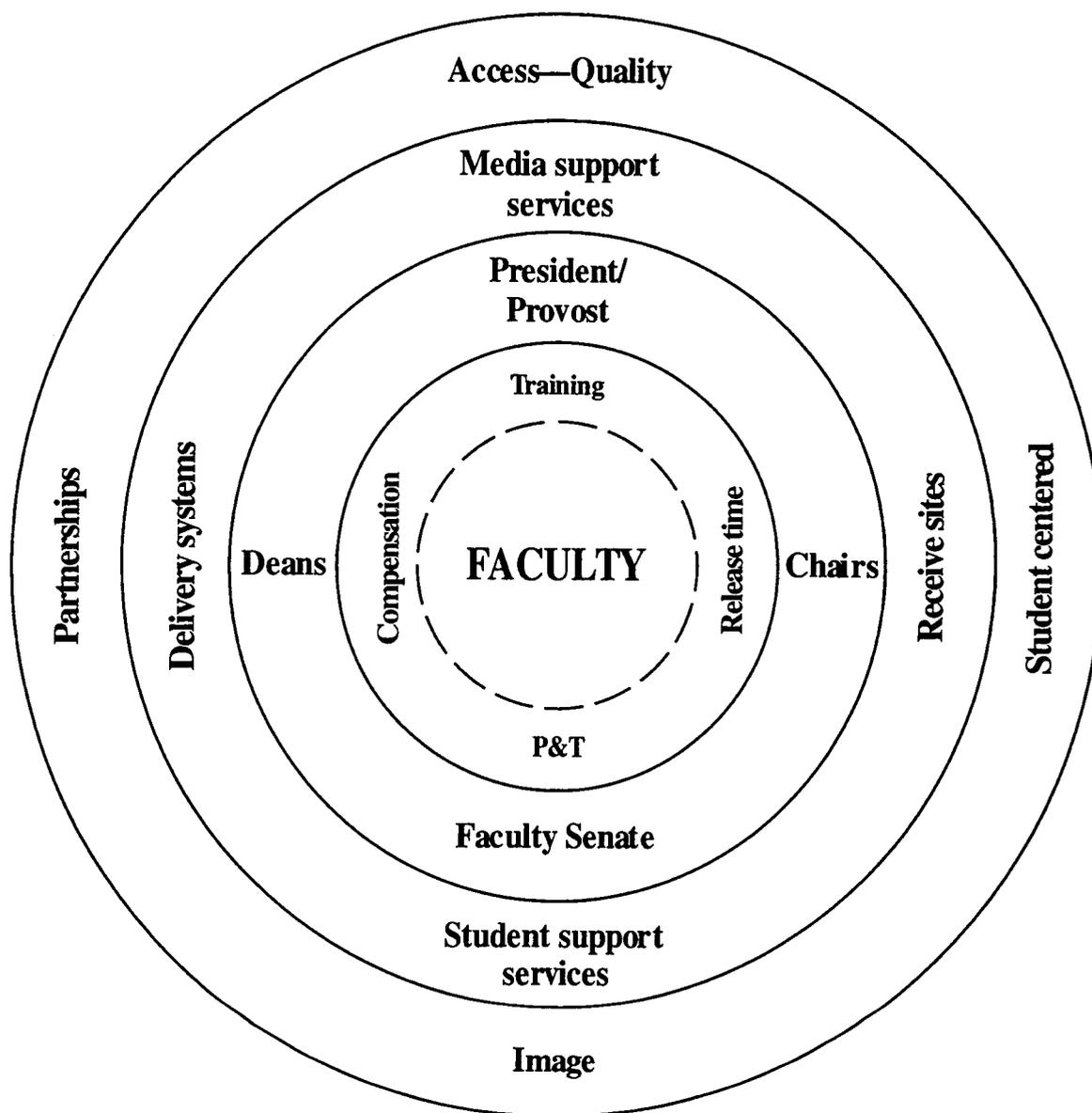
As a highly amenable integrative technology, audio teleconferencing illustrates how faculty resistance can dramatically increase when used as the primary delivery mode. In many ways, this supports Peters and Waterman's (1982) loose-tight principle. Audio teleconferencing used to supplement traditional face-to-face instruction is perceived as an

acceptable supplement to the instructional process. When used as the primary delivery mode, however, audio teleconferencing challenges traditionally embedded instructional norms valued by faculty and induces resistance and nonparticipation.

Chapter 7 blends together the tenets of organizational culture-innovation diffusion and the critical barriers to faculty participation in distance teaching to develop an institutional faculty support model. The major components of this model are presented in Figure 8.3 and were discussed in Chapters 1 and 7. Olcott & Wright (1994) proposed 10 recommendations and strategies for advocates promoting faculty and institutional adoption of distance education.

1. Recognize that the mainstream academic culture determines the efficacy of integrating distance education into the mission of the institution.
2. Develop a conceptual framework for facilitating change in postsecondary institutions. The organizational culture-innovation diffusion framework provides an advocacy approach from which to begin addressing the complex and diverse issues that affect faculty and institutional adoption of distance education.
3. Emphasize the advantages of the distance education process rather than the technology when communicating with faculty. Faculty are more concerned with human resource issues. Be prepared to discuss how altered faculty roles in distance education can be a positive process (e.g., more time to individualize instruction, enhanced instructional organization, improved quality, opportunities for research and publication in distance teaching, etc.). This presumes, of course, that the advocate understands the academic culture, its values and the typical demands placed on most faculty relevant to what their academic units value and reward. Do your homework!
4. The perceived advantages in the use of technology in education in concert with the human resource issues can dramatically facilitate faculty participation. Mistakenly, past advocates have focused on the technology as the innovation when, in fact, the innovation was the practice and process of teaching at a distance.

Figure 8.3
Faculty Support Model



5. Participate in activities and engage in roles that are valued by faculty and the academic culture. Serve on faculty committees, co-publish an article with another faculty member, or perhaps consider teaching a distance learning course yourself. Your credibility among faculty is critical to your capacity to facilitate receptivity to distance teaching. The old adage that "I'm a practitioner" carries little influence among faculty. Besides, the diverse roles of today's faculty probably give them more right to the "practitioner label than professionals in continuing and distance education or media services.
6. Market your faculty as well as your programs. Place faculty at the core of your programmatic initiatives. Allow the distance education delivery method to showcase your academic strength and facilitate the learning process.
7. Court your department chairpersons and deans. They control resources, reward faculty, approve release time, and play perhaps the most important role in promotion and tenure. They affect participation and acceptance of distance teaching and may be the most important influence on the future expansion of university distance teaching. Remember that high level institutional policies are not simply top-down processes. These policies and priorities at the presidential and provost level evolve through communications with deans, chairpersons, the faculty senate and even students. Distance education is truly a partnership endeavor involving faculty and administrative support units at all levels.
8. Create a comprehensive faculty development program to promote the realization of the aforementioned goals. Stage faculty workshops and forums to showcase the work of pioneering faculty involved in distance teaching. Develop a cadre of exemplary faculty-eagles to share their experiences with interested faculty novices to the field. Create electronic networks and newsletters to share information regarding various applications of technology to educational needs. Establish awards to recognize outstanding achievement in teaching and learning at a distance. But whatever you do,

apply resources to a faculty development program. A faculty development program will reap benefits for faculty and the institution.

9. Disseminate distance education research, publications, and model practices to chairpersons, deans, faculty, and administrators. These professionals tend to be more receptive to materials written or created by their peers. Moreover, experienced distance teaching faculty are the most effective advocates for attracting new faculty.
10. There is simply no substitute for patience. Distance education is still its infancy in many ways. Develop realistic expectations and engage in a strategic planning process. It took 20 years to get the overhead projector out of the bowling alley and into the classroom. Distance education takes time and patience.

Implications for Practice and Research

The articles presented in this thesis have made important contributions to distance education practice and literature. The organizational culture-innovation diffusion advocacy approach has provided a theoretically-based framework for administrators, faculty and other advocates to facilitate the integration of distance education. The major issues presented in these articles have not been universally resolved and will continue to challenge institutions that are genuinely committed to using distance education to increase access and enhance their extended missions.

The integrated instructional frameworks (see Figures 8.1 & 8.2) for designing extended degree programs are currently being used by institutions across the country. At Oregon State University, three extended degree programs have been designed using the integrated instructional framework. A statewide bachelors degree in liberal studies admits students that have completed their associate degrees from Oregon community colleges. Students complete their upper division requirements through face-to-face, televised and

independent study delivered courses as well as through transfer courses from other Oregon four-year colleges and universities.

The OSU School of Education offers a masters degree in Adult Basic Education and a doctorate degree with a concentration in Community College Leadership. In both programs, students have completed degree requirements through a blend of on-campus and off-campus face-to-face instruction, courses delivered via television, and through transfer coursework. The integrated approach fuses traditional instructional systems with new learning systems and creates responsive and flexible options for faculty and departments to design programs and for students to complete coursework. The integrated design of extended degree programs will see rapid growth during the rest of the 1990s.

Audio teleconferencing is cost effective, easy to use, and flexible delivery system. As more and more institutions explore instructional uses of internet, audio-graphics and emerging multi-media systems, audio teleconferencing use will increase among postsecondary institutions. Chapter 6 asserted that this medium has been overshadowed by video-based systems that are expensive to operate and maintain. The strategies presented in Chapter 6 will provide the foundational basis for the increasing use of this medium.

The myriad of issues surrounding distance education have accentuated a growing need for a faculty support model to assist institutions in the effective integration of distance education. This model asserts that a renewed commitment to the centrality of faculty must occur to successfully meet the transformational changes facing American education and society. Without underscoring the importance of policy makers and administrators across the educational spectrum, faculty will be instrumental to the long-term success of K-12 restructuring and curricular reform, community college 2 + 2 Tech Prep programs and the revitalization of the university undergraduate curriculum. Distance education is no exception . . . faculty are the key to success.

Despite the initial contributions of this thesis to distance education practice and theory, there are many questions deserving further inquiry and investigation. These are:

Distance Education Adoption and Integration Questions

1. How do we measure the degree (or importance) of divergence between distance education and mainstream academic practice on specific barriers or issues?
2. What process determines whether the Academy, distance education or both make changes to accommodate the diffusion of distance education? Who should have responsibility for making these decisions and why?
3. What specific strategies and frameworks will facilitate the resolution of specific barriers?

Distance Education Administrative Questions

1. What procedures will govern the designation of "lead institutions" for interinstitutional extended degree programs? By what methods will registration, FTE counts, financial aid, and tuition payments be administered? What incentives will need to be developed to foster interinstitutional curricular design by faculty, particularly via telecommunications? If multiple institutions offer similar degree programs, what criteria determines "lead institution" designation? Who makes these decisions?
2. Will "system residency" replace individual institutional residency requirements for future institutional and interinstitutional extended degree programs? What are the advantages of all systemwide courses having residency status reciprocally accepted towards each other's respective degree programs?
3. What specific roles and responsibilities should the organizations and professionals in the faculty support model play? Should a different organizational structure be established to link these organizations more closely?

Distance Education Instructional Questions

1. What models for promotion and tenure are needed for distance teaching?
2. How do we move all distance teaching to inload assignments for faculty?
3. How do we move faculty toward the team approach for distance teaching? What advantages does this approach offer to participating faculty?
4. What performance measures for assessing depth and breadth of learning must be developed beyond traditional measures? Will performance-based criteria be increasingly adopted at the upper division and graduate levels?
5. How can student-teacher interaction be increased in both traditional classroom and distance teaching instruction? How can distance education enhance the quality and effectiveness of campus-based teaching and learning? Are team teaching approaches viable for distance teaching?

Conclusion

Distance education compels postsecondary institutions to reduce existing barriers to faculty participation by compensating, rewarding, and training faculty at levels commensurate with traditional instructional activities; and to provide instructional and administrative support services designed to ensure student access to high quality programs. Without well trained and equitably rewarded distance teaching faculty, the potential of distance education will be seriously diminished. Within the mainstream academic culture, failure to ameliorate these human resource needs will deter faculty receptivity to, and participation in, postsecondary distance teaching. Institutions that satisfy these needs will simultaneously create a balance between the application of advanced technologies and the appropriate development of human resources that are necessary for ensuring instructional quality and student access to extended educational programs delivered through distance education.

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