DISTANCE LEARNING POLICIES IN POSTSECONDARY EDUCATION: A STATE-BY-STATE ASSESSMENT

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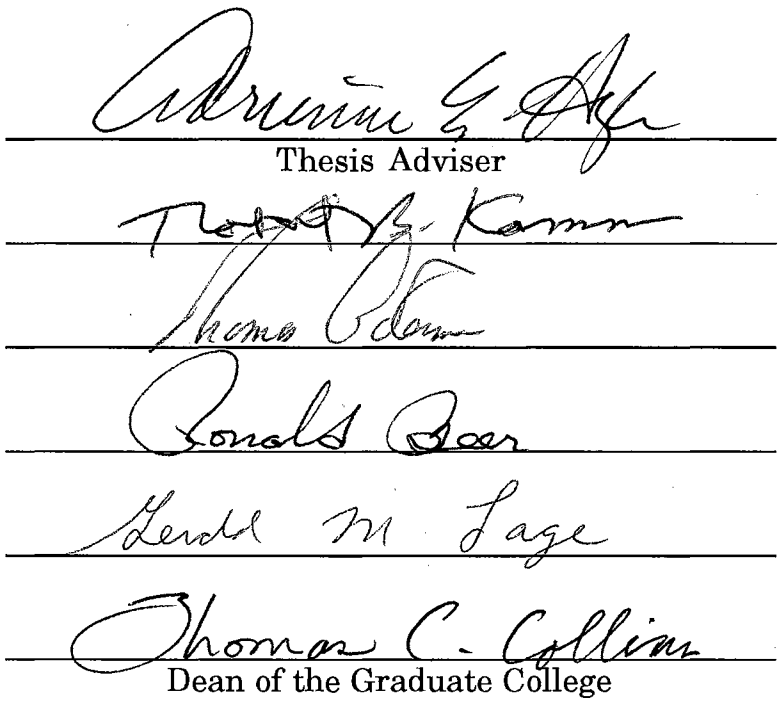

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Persons grouped around a fire or candle for warmth or light are less able to pursue independent thoughts, or even tasks, than people supplied with electric light.

–Marshall McLuhan

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CHAPTER I

DESIGN OF THE STUDY

The development of television technology, especially the ability to transmit signals via satellite, cable, and fiber optic lines, has greatly enhanced and expanded the capability for delivery of postsecondary education and extension courses via electronic means (Brown & Thornton, 1963; Levenson & Stasheff, 1958; Naisbitt, 1984.) These media include but are not limited to: two-way, talk-back television; satellite delivery of courses to business, industry, and educational institutions; and the use of compressed video (Verduin & Clark, 1991). Recent mergers of telephone and cable companies further open windows of opportunity for adaptation of communication technologies to deliver information and education to all who seek access (Hezel Associates, 1993; 1994).

Investments in communications technology on the part of colleges and universities may be the key to institutional survival in the next century (Chaleux, 1985; Hezel, 1990; 1991). Nationally, level or reduced state funding for postsecondary education has generated interest in examining the use of telecommunications technology to deliver quality higher education programs and services at a lower cost (Baird & Monson, 1992). Issues associated with the regulation of both communications and education need to be addressed as soon as they arise if the evolution of

higher education is to keep pace with the revolutionary changes in communications technology (Kahin, 1994).

In relating public policy to the meaning of educational change, Floyd (1982) believes the ultimate effect of higher education policies directing the use of emerging technologies for distance education should be "maintaining the quality of educational services and providing access to all students who might benefit" (p. 39). Fullan and Stiegelbauer (1991) argue that "strong commitment to a particular change may be a barrier to setting up an effective process of change" (p. 95); that those who wish to see a change implemented need to be as skilled in the change process as they are in the proposed change. These authors demonstrate a need to associate any proposed change with specific goals and objectives and contend that solutions result from shared meaning: "The interface between individual and collective meaning and action in everyday situations is where change stands or falls" (p. 5).

Statement of the Problem

The availability of communications and computer technologies has expanded dramatically throughout the world since the 1950s and currently offers unlimited potential for institutions of higher education to deliver credit and noncredit instruction and information to any part of the world (Naisbitt, 1984). Yet, the delivery of postsecondary education via telecommunications technology is extremely limited in the United States and is more common in cooperative extension work and professional training for adult learners (Baird & Monson, 1992). Another factor limiting the actual use of telecommunications for delivery of postsecondary education is the existence of policies that may discourage colleges and

universities from using these technologies. For public institutions of higher education, which are bound by rules and regulations for delivery of postsecondary educational courses, a lag between the availability of technology and its appropriate use is accentuated by state policies that either promote or inhibit deployment (Eure, Goldstein, Gray, & Salomon, 1993).

Verduin and Clark (1991) speculate that this anomaly exists because of "American educators' lack of awareness about just what distant education is, how it operates, and what it can do for adult learning" (p. xi).

Fullan and Stiegelbauer (1991) would attribute the time lag between the availability of emerging technologies and their application to needs in higher education to the complexity of the change *process*. They contend that "educational change is technically simple and socially complex" (p. 65). To better understand this complexity, they posit several assumptions about change; among them are the assumptions that change will take time and "that any significant innovation, if it is to result in change, requires individual implementers to work out their own meaning" (p. 106). In higher education, that meaning is often defined through policy.

Purpose and Scope of the Study

The purpose of this research is to describe the distance education policies and regulations now in place at the state level throughout the United States, and to describe perspectives of the state coordinating board leadership regarding the meaning of these policies to telecommunications-related issues and opportunities facing postsecondary education.

Specifically, this descriptive research (Gay, 1992) illuminates perceptions of meaning associated with distance education policy in higher

education within the context of Fullan and Stiegelbauer's Meaning of Educational Change (1991). This study brings focus to the role of coordinating boards in the design, implementation, and coordination of policy which is intended to bring meaning to change.

Conceptual Framework

The New Meaning of Educational Change by Michael G. Fullan with Suzanne Stiegelbauer (1991) provides the conceptual framework for this study. The Fullan and Stiegelbauer volume includes discussion of: (1) the sources of innovation, (2) the meaning of change, and (3) factors affecting implementation and continuation. These authors agree with earlier observations that natural disasters, external forces such as imported values and technology, and internal contradictions are all sources of pressure for educational change. In examining why people push for specific changes, Fullan and Stiegelbauer (1991) examine both the beneficiaries of educational change and the value (technical quality) of innovation and identify the most desired outcome as "the actual implementation of a quality program that we value" (p. 18).

In considering whether the sources of educational change are to be trusted, the authors consider both the technical soundness of the innovation and who benefits from the change. They observe that some innovations may be adopted merely because funds are available to support the idea without adequate attention given to whether the innovation is technically sound or whether there is any positive outcome of benefit to the faculty, students, administration, higher education, or society in general (pp. 19-22).

Fullan and Stiegelbauer enumerate many factors, in addition to educational merit, which influence decisions to change. "A closer examination reveals that innovations can be adopted for symbolic political or personal reasons: to appease community pressure, to appear innovative, to gain more resources. All of these forms represent *symbolic* rather than *real* change" (p. 28). The authors cite Cuban's categorization of innovations into first- and second-order changes, defining *first-order changes* as "those that improve the efficiency and effectiveness of what is currently done" and *second-order changes* as those which "seek to alter the fundamental ways in which organizations are put together, including new goals, structures, and roles" (p.29).

Change

Fullan and Stiegelbauer (1991) observe that, because change is ever-present, we tend not to think about what it means to us or to those around us. The clarification process followed by the authors includes (1) the meaning of individual change within society, (2) the subjective meaning of change, (3) an objective meaning of change, and (4) implications of both subjective and objective realities for understanding educational change.

Meaning. Change is always uncomfortable and its meaning "will rarely be clear at the outset" (p. 31).

> Real change, then, whether desired or not, represents a serious personal and collective experience characterized by ambivalence and uncertainty; and if the change works out it can result in a sense of mastery, accomplishment, and professional growth. The anxieties of uncertainty and the joys of mastery are central to the subjective meaning of educational change, and to success or failure–facts that

have not been recognized or appreciated in most attempts at reform. (p. 32)

Subjective. There are three themes which Fullan and Stiegelbauer (1991) identify with subjective change: (1) forces keeping things as they are, (2) bitter resentment toward change imposed from outside, and (3) a "strong tendency for people to adjust to the 'near occasion' of change by changing as little as possible" (pp. 35-36). Unfortunately, what is perceived to be *objective* reality, on the other hand, is often nothing more than a reflection of a single group's subjective reality. "We can minimize this problem by following the practice of posing double questions: 'What is the existing conception of reality on a given issue?' Followed quickly by 'Says Who?'" (Berger and Luckmann as quoted by Fullan and Stiegelbauer, 1991, p. 37).

Objective. A change in actual practice (implementation) is a reflection of objective reality concerning educational change, but even a change in practice must be viewed from various dimensions. Fullan and Stiegelbauer (1991) identify three: (1) the possible use of new materials or technologies, (2) the possible use of new strategies or activities, and (3) the possible alteration of beliefs underlying new policies or programs. Change in practice must take place in all three dimensions to have any *real* impact on outcomes.

> In summary, for our purposes there are three critical lessons to be learned. First, change is multidimensional and can vary accordingly within the same person as well as within groups. Second, there are some deep changes at stake, once we realize that people's basic conceptions of education and skills are involved–that is, their occupational identity, their sense of competence, and their self concept. The need and difficulty for individuals to develop a

sense of meaning about change is manifest. Third, compounding the second lesson is the fact that change consists of a sophisticated and none-too-clear *dynamic interrelationship* of the three dimensions of change. (pp. 40-41)

Implications. Throughout The New Meaning of Educational Change, Fullan and Stiegelbauer (1991) stress that change does not necessarily reflect progress; that the *meaning* of change is in its effectiveness as a means for achieving a desired objective. Their discussion of the implementation of change includes nine key factors in the implementation process organized into three main categories relating to (1) characteristics of the innovation, (2) local roles, and (3) external factors, including government and other agencies. The relevance of these factors to this study is most associated with category 1 (characteristics of telecommunications technology) and category 3 (agency coordination for delivery of postsecondary education). No doubt "how" and "why" governing boards deal with the change will have an impact on category 2 (local roles) and vice versa, but to speculate on this point would be to go beyond the purpose and scope of this study.

Definition of Terms

Every effort has been made to avoid the use of jargon. However, the reader may encounter some unfamiliar terminology, so the following is offered in an effort to assure clarity. For a more complete glossary of telecommunications terms, see Duning, Van Kekerix, and Zaborowski (1993), pages 271-276.

There are a variety of definitions of the term "distance learning" in the literature (Moore, 1991; Foa, 1993). Haughey and Murphy (1984) are

among many observers who define print-based educational experiences founded on the correspondence course model as "long-distance learning experiences" (p. 5). The California State Postsecondary Education Commission (1991) defined the term as follows:

> ...*distance learning* means instruction in which the student and instructor are separated by distance and interact through the assistance of computers and communications technology. Distance learning may also include video or audio instruction in which the primary mode of communication between student and instructor is through a communication medium such as instructional television, video, or telecourses, and any other instruction that relies on computer or communications technology to reach students at distant locations. (pp. 1-2)

Moore (1991) observes that the first attempt (in English) to define *distance education* and to articulate a theory appeared in 1972 and, in 1980, was named as the theory of "transactional distance:"

> The transaction that we call distance education occurs between individuals who are teachers and learners, in an environment that has the special characteristic of separation of one from another, and a consequent set of special teaching and learning behaviors. It is the physical separation that leads to a psychological and communications gap, a space of potential misunderstanding between the inputs of instructor and those of the learner, and this is the transactional distance. (pp. 3-4)

Baird and Monson (1992) cite the influence of an educational organization and the use of educational media as key elements of any definition of distance education as opposed to distance *learning* (p. 65).

For the purposes of this study, *distance education* is defined as postsecondary learning experiences in which instructor and learners are at a distance from one another during the teaching process and in which telecommunications technology is used to bridge the gap. Unless otherwise noted in the text, *distance learning* and *distance education* are used interchangeably.

Telecommunications refers to the realm of television and telephone technologies including two-way, talk-back television and one-way televised instruction combined with two-way telephone communications to allow for questions and discussion (Vediun & Clark, 1991).

Educational media include but are not limited to books and other printed materials, audiocassettes, telephone, radio, projected still visuals, audio and video tapes, and computers (Brown & Thornton, 1963; Verduin & Clark, 1991).

Procedures

A questionnaire, based on design recommendations of Dillman (1978) and Bradburn and Sudman (1988), was mailed to the membership of the State Higher Education Executive Officers (SHEEO) organization (one individual per state and the District of Columbia) and to an individual with the Community College Commission in Wyoming. A modification of Fowler's (1984) strategy for reducing nonresponse included the initial mailing, a post card reminder, a letter of endorsement from the Chancellor of the Oklahoma State Regents for Higher Education, a second copy of the questionnaire forwarded with a second letter, and telephone contact. The first letter and questionnaire were sent to the population on January 16,

1995. Response to the mail survey reached 76.5 percent on February 27, 1995.

To further improve the response rate and verify nonrespondents as similar to respondents, a telephone follow-up effort was conducted in early March 1995. The response rate reached 90.19 percent on March 14, 1995, the last day responses were accepted for this study. The mail questionnaire is presented as Appendix A. Correspondence related to the mail survey is presented as Appendix B; the follow-up telephone survey instrument is exhibited as Appendix C. A more complete discussion of the methodology is presented in Chapter III.

Significance of the Study

The significance of this study is the description of the current status of various state policies throughout the United States which are intended to coordinate the use of communications technology for distance- based postsecondary education. Additionally, the study brings the theoretical framework described by Fullan and Stiegelbauer (1991) into the arena of postsecondary education to further illuminate both the process and the practice of planning for meaningful change.

Research

The existing literature is rich with descriptions of benefits which can accrue from the application of telecommunication technology to the delivery of educational programs at all levels. Hezel (1990, 1991), Hezel Associates (1993, 1994) and Kahin (1994) provide the best collections of information about where the technology is in place, who is collaborating with whom,

and what legislative activity relates to linking America to the world through an information infrastructure.

However, the research associated with the role of coordinating boards in establishing policy intended to address a specific educational innovation is more limited. This study adds to the existing body of research which aids in understanding the role of state coordinating boards in the processes of change such as distance learning and subsequent policy development in postsecondary education.

Practice

This study provides perspectives on the relationship between established policy and meaningful change from the point-of-view of the SHEEO practitioners in the states where such policies have been established. For higher education coordinating boards struggling with questions of funding, access, and other constraints and opportunities, the perspective of their peers should prove helpful in trying to untangle what is change for the sake of change and what change has meaning for the reform of higher education in terms of distance education.

Statutes, policies, and practices honored by the American educational system are based on a model requiring teacher and student to occupy the same space and to interact daily in face-to-face communication. Less formal educational opportunities have been offered to adult learners through printed correspondence courses, audio and video tapes, interactive computer networks, talk-back television, and satellite-transmitted videoconferences which often provide participants an opportunity to communicate with presenters via telephone (Rasmussen, 1989).

Issues arising from the use of emerging communications technologies are often associated with statutes, rules, and policies designed for an educational system linked to communities or states (Hezel, 1990, 1991; Hezel Associates, 1994; Kahin, 1994). The primary objective of this research is to describe existing issues and related state policies to gain greater insight into the perceived relevance of state educational policy in contributing toward meaningful change in the delivery of postsecondary education via telecommunications.

Theory

"Reform is not putting into place the latest policy. It means changing the cultures of the classrooms, the schools, the districts, the universities, and so on" (Fullan & Stiegelbauer, 1991, p. xiii). This study describes, from the state postsecondary education coordinating board perspective: (1) the sources of innovation, (2) the meaning of change, and (3) factors affecting implementation and continuation of telecommunications for distance education, based upon the theory presented by Fullan and Stiegelbauer (1991). Confirmation of change theory should result.

Summary

This chapter has presented the research problem, purpose, and objectives of an assessment of state distance education policies as they relate to educational change. Conducted as survey research, the study's conceptual framework is based on The New Meaning of Educational Change (Fullan & Stiegelbauer, 1991).

Reporting

Chapter II presents a selected review of the literature as it pertains to the history of technology for delivering information and educational programs, the impact of emerging communications technologies on information exchange, barriers to meaningful change, contemporary events associated with the change process, planning and policy issues, and the role of state coordinating boards in the complex process of change in delivery methods for postsecondary education. Chapter III describes the who, when, where, and how of methodology employed in the identification and selection of the population, the data collection process, and analysis. Chapter IV provides a more detailed presentation of findings and analysis; and, finally, Chapter V presents a summary, conclusions, recommendations, and commentary.

CHAPTER II

REVIEW OF SELECTED LITERATURE

This chapter presents a selected review of the literature as it pertains to the history of technology for delivering information and educational programs, the impact of emerging communications technologies on information exchange, barriers to meaningful change, consortial arrangements associated with the change process, planning and policy issues, and the role of state coordinating boards in the complex process of change in delivery methods for postsecondary education.

Stressing that educational change is not an event, but a process Fullan and Stiegelbauer (1991) make the following observation:

> Most researchers now see three broad phases to the change process. Phase I–variously labeled initiation, mobilization, or adoption–consists of the process that leads up to and includes a decision to adopt or proceed with a change. Phase II–implementation or initial use (usually the first two or three years of use)–involves the first experiences of attempting to put an idea or reform into practice. Phase III–called continuation, incorporation, routinization, or institutionalization–refers to whether the change gets built in as an ongoing part of the system or disappears by way of a decision to discard or through attrition. (pp. 47-48)

The authors present a simplified model depicting these three phases and adding a fourth concept of "outcome" to provide a more complete overview of

the change process. Then, they observe that the single most important idea arising from this model is "that *change is a process, not an event*–a lesson learned the hard way by those who put all their energies into developing an innovation or passing a piece of legislation without thinking through what would have to happen beyond that point" (p. 49).

Translating these four phases of the change process into a review of literature associated with the use of communications technology in the delivery of postsecondary education, topic areas in this chapter include (1) the history of technology for delivering information and educational programs, (2) the impact of emerging communications technologies on information exchange, (3) barriers to meaningful change, (4) consortial arrangements associated with the change process, (5) planning and policy issues, and (6) the role of state coordinating boards in the complex process of change in delivery methods for postsecondary education.

History of Technology in Education

Baird and Monson (1992) note that correspondence study dates back to the mid-1800s and remained the mainstay of distance education throughout the first half of the 20th Century; radio was used for delivering classes to remote areas in the 1920s. "In contrast, although the telephone became commonplace in homes and businesses during that time, it was not until the 1950s and 1960s that its use in distance education, with amplified telephones and bridges to link calls, became feasible" (p. 66).

A review of literature on the subject of postsecondary telecommunications employing electronic databases disclosed a multitude of entries describing either methodologies, technologies, and delivery systems or trends and developments. Much of the literature deals with

land-grant university participation in distance education, particularly within the Cooperative Extension Service where many "early adopters" have provided informal educational opportunities via television to both youth and adult learners.

Acts of Congress of May 8 and June 30, 1914 established what is now known as the "Cooperative Extension System" for translating research-based information into a form usable by the average citizen and providing mechanisms for delivery of that information to all who request it. This unique undertaking is a partnership between the United States Department of Agriculture, land-grant colleges and universities, state legislatures, and county governments. Rasmussen (1989) and other historians stress that the primary purpose of "cooperative extension work" is to improve the economic viability of individuals, their families, and their communities. Initially focused on the agricultural sector, the Cooperative Extension System gradually expanded its mission to cover economic development on a broader field in both rural and urban environments. Warner and Christenson (1984) observe that the Cooperative Extension System still delivers educational information in four traditional "program areas:" Agriculture, Home Economics, Youth Development (4-H) and Rural (or Community) Development. The fourth program area has been alternatively labeled "Rural Development" and "Community Development," depending upon the era or geographic location of programming.

Considerable effort has been made over the past 80 years to link the Cooperative Extension System's educational program needs to expressed or perceived social and economic needs of specific localities, often identified by county or state boundaries. In recent years, community development programs of the Cooperative Extension System have been aimed at a single

urban or rural community or to a specific sector or sub-sector of the economy (i.e., nurserymen interested in the home-landscape market) regardless of geographic location. Considerable effort is being made by Cooperative Extension at the federal level to ignore state boundaries when designing and delivering educational programs. A 1992 Extension Service, U.S. Department of Agriculture report entitled FACT, Future Application of Communication Technology places increased emphasis on the use of computer and satellite networks for delivering information internally within the agency as well as for providing access to information for an ever-expanding clientele base.

Historically, information has been delivered by Cooperative Extension via newspaper, radio, television, field days, subject-specific educational meetings, exhibits at county and state fairs, printed brochures, fact sheets, and more comprehensive publications. Except for mass media efforts, citizens usually access this information through the "county extension agent" (Warner & Christenson, 1984; Rasmussen, 1989).

Wayne D. Rasmussen's Taking the University to the People (1989) puts Cooperative Extension work into perspective for the unfamiliar and challenges the extension veteran and university administrators to keep it in perspective. Rasmussen traces Extension's mission from May 8, 1914 when President Woodrow Wilson signed the Smith-Lever Act establishing the Cooperative Extension Service through war and depression, The New Deal and World War II, to present day focus on Rural and Community Development. This volume describes Cooperative Extension as a unique educational institution and illuminates the changes it has undergone as agriculture and the social and economic structure of the nation changed over time. The content of the chapter entitled *Beginning the Next Seventy-*

five Years helps link new communications technologies to the delivery of programs which are still consistent with the intent of the 1914 legislation, "to aid in diffusing among the people of the United States useful and practical information..."

Impact of Emerging Communications Technology

The 1992 FACT report (Extension Service, 1992) gives evidence that many informational packages are now delivered through either videotape or satellite transmission to television sets in the learner's home. Interactive CD is on the horizon as another medium through which all citizens may access information they need to improve their quality of life (Rasmussen, 1989).

Teaching through television cannot be considered a "new" concept. However, there are many factors which slow adaptation to newer technologies throughout postsecondary education, including the traditional Cooperative Extension System. Proceedings of the Agricultural Satellite Consortium's "Future Summit," held in Atlanta, Georgia in February 1994, included discussion of perceptions that employees of the system (at the federal, state, and county levels) appear to prefer doing "business as usual," still seeking to meet audiences face-to-face and deal as often as possible in the one-to-one specialist-to-client ratio. It appears that state extension specialists throughout the United States prefer traveling and meeting directly with clientele. For some, up-front investments in the technology seem prohibitive, so they continue to spend less out-of-pocket funds during a given fiscal period in support of traditional delivery methods. These obstacles to effective use of telecommunications for

distance learning appear to be equally relevant to more formal aspects of postsecondary education.

Television technology has also enhanced our ability to conduct behavioral research. Adams and Biddle (1970) employed videotape to record behavior in classroom settings. These researchers cited three main advantages to using videotape for data collection and analysis: (a) ability to preserve an "extremely comprehensive" record of classroom behavior, (b) fidelity of the system; cameras and microphones fit in the setting, and (c) the technology allows sequences of behavior to be viewed and re-viewed at will, a distinct advantage during data coding. Gruebel (1983), after citing several failures, concluded that televised adult learning promises to be the least expensive means to reach more students. Ainsworth (1988) supports more recent adaptations of "teleclasses" as cost-effective for distance education. Baird and Monson (1992) cite the emerging computer-based technology as showing great potential when personal computers and software are linked through modems to provide access "to a wide variety of resources residing on the computer's hard drive, in external devices such as videodisk storage, and in remote information data bases."

Barriers to Change

Not all of the literature focuses on the success or benefit of telecommunications. In addition to issues of quality and institutional barriers, the literature identifies a number of barriers to change associated with the costs of implementation and maintenance, barriers associated with faculty employment, and barriers associated with the technology itself. The following review examines these barriers from many authors' perspectives.

Costs as a barrier

Chang, Cromberg, van der Drift, and Moonen (1983) cite a 1978 preliminary report on a Dutch proposal to found an Open University which concluded "that written instruction should constitute the basic teaching medium, and that other media (e.g. computerized instruction or television) were only to be added if the written medium failed to realize the desired teaching objectives" (p. 20). Preferences were based on cost. Tiffin (1989) cites management and planning as major problem areas "that no one really wanted to talk about" and further states: "If people went into business the way they went into educational television, no bank would lend them a cent" (p. 137).

Hezel (1991) observed that "state budget deficits and revenue shortages are reasons given more often now for delays in technology implementation" (p. 17), but some states consider the investment in technology as a cost saver in the long term. Bell (1991) suggested legislatures stop short of reaching into the public purse to implement strategy. She concluded that a legislature, in view of current fiscal constraints, cannot afford to finance an entire distance-learning system and "should not seek to control a developing system" (p. 2). On the other hand, Baird and Monson (1992) cite lean budgets as reason for entering new partnerships to make use of telecommunications for distance education. As important, in their view, is the need to re-examine policies:

> Growing distance education applications and technology alternatives are forcing many states and universities to reexamine policies, rules, and regulations that were written in the context of traditional educational settings. Educators will need to be involved in discussions and policy recommendations regarding distance

education course accreditation, teacher certification, public-private partnerships, faculty rewards, and intellectual property concerns, among other issues. (p. 73)

Employment as a barrier

Faculty and union sensitivity to job security is another barrier observed by Hezel (1991). In a discussion of communication and computer technologies as tools, Smith (1983) asked, "Is it worth wondering whether postsecondary institutions are in the business of education or in the business of employing faculty?" (p. 32). If employment trends continue, argued Smith, "odds will be long against exploiting the technological opportunities for delivering better and less expensive postsecondary education to more of society, in more locations in more communities, and at more convenient times and more affordable prices" (p. 32).

Schoppmeyer (1990), while discussing the potential of educational television, interactive TV, and the computer, states "It would seem that these inventions could conserve professional time and hence the number of professionals. Yet their numbers grow" (p. 15) because teacher time is a cheaper alternative to televised instruction and hence is, in an economic sense, an "inferior good" (p. 15).

Technology as a barrier

In an article written ten years after learning that an educational television (ETV) experiment in Ghana had been shut down, Tiffin (1989) wrote: "as the problems in educational television became increasingly apparent, the educationalists began to blame the television people and the television producers began to blame the educationalists" (p. 137). Tiffin

observed that one of the barriers to educational change is the technology of TV itself: "The only fail-safe mechanism in educational television has been the teacher" (p. 137). The objectives in early educational television, according to Tiffin (1989), "were seen in terms of producing programmes as distinct from resolving educational needs and problems" (pp. 137-38). Many of the programs were of poor quality, another factor in slowing change. Unfortunately, an effort Tiffan described as "the worst thing I had ever done" was still in constant use 16 years later; "and every attempt to take it off the air had led to howls of rage from teachers" (p. 139) because nothing better had been produced to replace it. Tiffin compared early ETV to early aviation, observing that we do not take our mistakes as seriously in the misuse of telecommunications because "nobody has managed to establish that television kills directly. The importance of being wrong is when we recognize we are wrong, learn from it and right the wrong in time to arrest tragedy" (pp. 139-140).

In a presentation to the Ninth Annual Conference of Distance Teaching and Learning at Madison, Wisconsin (1993), George P. Connick, president of the University of Maine at Augusta, noted that higher education was noticeably absent from the patterns of change ushered in by "powerful new technologies" which are transforming business, industry, and every other part of society:

> Compounding the problem is the fact that teachers, as the knowledge gatekeepers to this diverse assemblage, are constrained by conventional training, budget and social pressures to rely on techniques that are a century old. Indeed, while an accountant skilled in his profession 100 years ago would be bewildered in a modern computer setting, the teacher of that era could fit into the

> modern-day classroom with the comforting knowledge that the technology had not advanced a scintilla in the intervening century. (Agricultural Satellite Corporation, 1994, p.39)

Gehlauf, Shatz and Frye (1991) demonstrated that educational outcomes do not differ through the use of the emerging technologies as compared with traditional teaching methods, but there is still a *difference* between face-to-face instruction and televised instruction. There is, therefore, a concern about how well instructors can deal with the difference. Baird and Monson (1992) report that user data indicate effective telecourse design must include more than "talking heads" (p. 66). Tiffin (1989), after discussing many barriers to progress, offered hope:

> Then again, the growing application of instructional design in the United States has led to vastly improved planning in the use of technology in education and this, allied to rigorous American management skills, has improved the organizational use of educational television. (p. 139)

Consortial Arrangements

As communications technology developed, the concept of educational consortia to share in the benefits of the media also emerged. Those which have been most influential in promoting the use of telecommunications for delivery of postsecondary education are discussed in the paragraphs that follow.

In 1983, the National University Teleconference Network (NUTN) included 67 colleges and universities (paying $1,000 each for membership) and the Smithsonian Institution in its membership. NUTN's first videoconference, sponsored jointly by the American University in

Washington, DC and the University of Nebraska at Lincoln, enrolled 650 participants (Gruebel, 1983).

The National Technological University (1994), founded in 1984, reported a membership of 45 participating universities prior to its tenth anniversary. NTU reported 5,213 credit enrollments for 1992/93, more than 100,000 non-credit enrollments, and almost 23,000 broadcast hours of credit courses during the same fiscal period. NTU admitted 1,750 students to its M.S. degree programs and reported 538 graduates from 1986 to 1994.

In 1989, a number of the nation's leading land-grant universities joined to establish and operate a new information and instructional service called "AG*SAT" to facilitate satellite delivery of cooperative extension programs and college courses and to provide for the rapid exchange of research (Agricultural Satellite Corporation, 1991). As a result of the variety of media employed in communicating at a distance and the more frequent use of the term "distance education" in the land-grant culture, a decision was made to change the name of the consortium. "Agricultural distance education consortium" was one suggested alternative (Agricultural Satellite Corporation, 1994). According to a personal communication received from Janet Poley, Director of AG*SAT, the board approved the designation, "A*DEC" (not to be considered an acronym) at its January 1995 meeting.

Fifteen western states participate in the Western Cooperative for Educational Communications. In January 1995, the cooperative reached the mid-way point in a three-year project to create a regulatory environment that is conducive to interstate delivery of quality higher education programs using telecommunications. Year one findings of the project are presented in a draft report (1995) entitled Balancing Quality and

Access: Reducing State Policy Barriers to Electronically Delivered Higher Education Programs. One of the findings is that interstate policies with respect to electronically delivered academic degree programs by out-of-state institutions are not a priority concern in the western states (p. 3).

Planning and Policy Issues

George P. Connick, president of the University of Maine at Augusta, observed that most states have not yet identified distance education and educational telecommunications as major public-policy issues (Agricultural Satellite Corporation, 1994, p. 39). He commented further that neither chancellors, nor presidents, nor trustees, nor legislators have perceived the emerging technologies and the potential they present for providing access to both distant- and campus-based learners to be an agenda item to be discussed at the system, state, or regional levels. Most states, according to Connick, are still addressing technical issues. He cites Maine as one exception and predicts that control of access will shift to the consumer (Agricultural Satellite Corporation, 1994, p. 39). In the paragraphs that follow, several reports are identified which suggest that at least some public institutions and agencies are planning for change.

Planning for future change

Bell (1991) stresses the importance of interaction in the distance learning environment and considers satellites, interactive television, and the introduction of fiber optics to be primary technologies for the future of distance learning. Baird and Monson (1992) note several other aspects of the environment which contribute to successful application of technologies

for delivering education at a distance, among them are good planning and participation in policy making.

Based on a study initiated in 1990, the Future Applications of Communications Technology, "FACT" report (Extension Service, 1992) outlines a strategy for the Cooperative Extension System which includes usage of computer networking and video networking in program development and delivery. One stated goal of the FACT report was "to establish strategic plans, 'road maps' to guide the system's effective and efficient use of communications technology" (p. 14). The report identifies a number of issues, ranging from the need for a unified identity to "systematic and scientific audience targeting." The 15-page report is filled with jargon and is followed by a 7-page "glossary of networking terms." Even so, the report illuminates several communications-related issues which need to be addressed if the Cooperative Extension System is to efficiently and effectively use communications technologies for the delivery of subject matter to citizens and communities throughout the country. As a background for the proposed study, this strategic planning document is relevant to the use of satellite television technology for delivery of programs associated with all aspects of postsecondary education.

To understand the increasing use of communication technologies in delivering programs of the Cooperative Extension Service, it is helpful to review the current status and published plans for future applications of these technologies at the federal level. The 1992 Plan of Action: Communication, Information, and Technology is the unit plan for the Extension Service, U.S. Department of Agriculture's "communication, information, and technology" staff which gives leadership to "upholding" the published mission and vision. The plan-of-action goals, at least

informally, impact plans developed in the various states, particularly as they relate to computer and video networking. Stated objectives of this plan include: "Work with Extension Service national program leaders, agencies, and states to prepare and deliver videoconferences and videotapes in concert with the overall goals of the Agency, Department, and System." Another published objective relevant to the proposed study: "Continue to challenge the system to break down state boundaries in favor of cooperative productions" (p. 4).

The United States Department of Agriculture (1991) defines the federal Cooperative Extension System as "a future-oriented, self-renewing, national educational network providing excellence in programs focused on contemporary issues and needs of people" (p. vi). Focusing on global and national trends ("change drivers"), the plan zeros in on information and technology explosions; environmental stewardship; economic restructuring; changes in our institutions; social issues, lifestyles, and values; and shifting demographic distribution. The report concludes with a discussion of the requirements of quality and speed in information delivery. The authors admit that the Cooperative Extension System's problems are not unique, that every information technology issue faced by Extension is addressed by other public and private agencies. The delivery strategy includes AG*SAT (the consortium of land-grant institutions dedicated to delivery of education via satellite to a global audience), Compact Disc Read-Only-Memory (CD-ROM) storage and retrieval devices for data bases such as the National Agricultural Library, and other on-line searchable resources. In promoting the expanding use of these technologies, the authors observe: "Videotapes, CD-ROM discs, and computers never get bored when asked the same question a thousand times" (p. 34). More

important, the report stresses the new technologies, when appropriately used, will "strengthen the exchange among the many partners and audiences that comprise the reach of the Cooperative Extension System" (p. 34).

The Illinois Community College Board created the Telecommunications Ad Hoc Task Force to examine the current status of telecommunications in the Illinois Community College System and to determine the feasibility of establishing a statewide network. The task force report (Illinois Community College Board, 1992) outlines a 5-year implementation plan and a summary of the state's telecommunications needs. Among the recommendations offered by the task force was the establishment of a "statewide educational coordination committee" to help ensure "cost-effective development and utilization of a statewide telecommunications network to deliver instructional programs" (pp. 18-19). The report includes technical standards, but does not include policy recommendations.

On September 22, 1993, a day-long seminar entitled "Legal Aspects of Distance Education" was held on the Oklahoma State University campus. The seminar was presented by Cary A. Eure, Michael B. Goldstein, Todd D. Gray, and Kenneth D. Salomon, attorneys from the firm of Dow, Lohnes & Albertson of Washington, DC. Topics included: *Emerging Federal Policy*, *Regulation of Technology*, *Regulation of Content* (Accreditation and Licensure, Intellectual Property, and the Americans with Disabilities Act), *Federal Funding*, and *ITFS Leases*. None of the presenters addressed the development of state-level policies for assuring the educational effectiveness of distance-based postsecondary education.

Bell (1991), in a report to the National Conference of State Legislatures in Denver, Colorado, expressed the belief that legislatures should be involved in statewide, long-term distance learning strategy development and perceived the legislative involvement critical to maintaining balance between potential for improving education and potential problems in distance learning. According to Baird and Monson (1992), participation in policy making on the part of faculty is one factor contributing to the success of distance education applications at the University of Wisconsin.

In 1991, the Office of Educational Research and Improvement in Washington, DC published an eight-paper series entitled Education Policy and Telecommunications Technologies. The series deals with the application of telecommunications technology for improving elementary and secondary education. Implications for distance-based delivery of postsecondary education are not considered.

Policy issues

Gallagher and Hatfield (1989) discuss communications industry-related constraints which impact the availability and cost of communications technology, but their discussion falls short of identifying issues associated with the *meaning* of distance education. Foa (1993), on the other hand, advised policy makers to think in terms of harnessing technology into four basic themes or goals that can be orchestrated in a variety of ways: (1) integrating campus and community, (2) redefining teaching and learning, (3) allaying fears, and (4) managing with professional tools and professional methods (pp. 27-28). Foa cautioned "discussions about creating these new policies often become too sweeping to

translate into action, thus threatening to dissolve into a 'wait-and-see' gridlock" (p. 27).

Duning, Van Kekerix, and Zaborowski (1993) discuss a number of policy issues in their volume entitled Reaching Learners Through Telecommunications. First and foremost are issues of access and deciding who will benefit from the technological delivery of educational information. The authors offer an ideological defense for serving the underserved to help alleviate social problems; in a discussion of higher education's role in upgrading the work force, issues of equity and the ability to provide access for minorities are emphasized. Duning, Van Kekerix, and Zaborowski stress the need for managers of educational telecommunications facilities to actively participate in the policy development process.

Through Senate Bill 1202, the California Legislature directed the California Postsecondary Education Commission (1991) to develop a state policy statement on the use of distance learning technology in education "to be considered and, if appropriate, adopted by the Legislature" (p. 1). Other issues specified by the Legislature for consideration by the Commission included funding and management of intersegmental distance learning efforts, course credit transfer, qualifications and credentialing of instructors and on-site personnel, and ensuring course quality. In 1991, the Commission published its report which proposes both a state policy and the steps needed to implement it.

Linking for Learning: A New Course for Education, published by the Office of Technological Assessment of the Congress of the United States (1989), evaluated the role of local, state, and federal agencies as well as other public and private institutions in the development of related learning technologies. This report focuses on K-12 issues and does not discuss the

role of institutions and public agencies as it pertains to establishment of policies to enhance any specific use of the technology.

A 1989 study by Dean Bradshaw and Patricia Brown entitled "The Problem of Distance Learning, Policy Briefs Number Eight" (Far West Laboratory for Educational Research and Development, San Francisco, California) examined distance education practices and policies in Arizona, California, Nevada, and Utah. However, as is the case with much of the literature, the focus of the study was on existing problems to be addressed by policy rather than an analysis of the relationship between policies and practices.

Bell (1991) is among the observers who contend that technology will continue to drive policy. Haughey and Murphy (1984) assert that *change* is driven by more than technology: "The concurrent pressures of economic restraint, mounting costs, and the faculty's increasing resistance to travel culminated in a search for alternative delivery methods" (p. 192). Weinstein and Roschwalb (1990) stress the need for educators to participate in the policy debate. Noting that 275 educational leaders were at a budget hearing for the Department of Education in 1991, but (during that same period) educational leaders were noticeably absent from the House Science, Space, and Technology Committee hearings on the controversial Integrated Services Digital Network legislation, Weinstein and Roschwalb contend: "The absence of a separate voice for education in technological policy making has meant that educators and educational institutions have had to take unsuitable, leftover policies, products, and services designed by and for others" (pp. 116-17).

The Role of State Coordinating Boards

While many studies deal with specific policy considerations, single institutions and specific subject-matter consortiums are often the focus of discussion as opposed to policies which impact statewide systems. Berdahl (1990) notes that serious tensions in public university systems are created by the relationship between the state's demands for utility and accountability and the universities' expectations associated with academic freedom and autonomy. Regarding this tension, Schachter (1986) observed: "Ironically, the coordinating agency's policy-sector perspective separates it from the perspective of any single provider since each college tends to care most about its own individual interests and not those of its rivals" (p. 340).

Richard T. Hezel, since 1987, has provided comprehensive state-by-state assessments of the status of educational telecommunications (Hezel, 1990, 1991; Hezel Associates, 1993, 1994.) He (1991) notes that "current planning activities in most states are revealing greater evidence of policy discussion than they did in 1987" (p. 8). In terms of participation by the state coordinating bodies, Hezel observed they are "demonstrating a greater willingness to confront the important policy issues and to undertake policy-oriented research than was the case" (p. 8), but "in some situations technology decisions are made prior to the academic curriculum decisions" (p. 20).

On December 3, 1982, at an organizational meeting in Indianapolis, J. O. Grantham, director of NUTN, cautioned: "NUTN's primary concern is *not* programming and *not* the technical network, it's the administration. Can we operate together? That's the issue" (as quoted by Gruebel, 1983, p. 14). Honig (1984), in a review of California's efforts to strengthen education at all levels, enumerated a number of reforms designed to help educators

decide what "common ideas, values, and beliefs are important for all of us to know. In California, we are rebuilding the educational system to address these concerns. But we're going to need intelligent assistance and leadership of *governing* boards to bring it off" (p. 46).

Consortia, such as NUTN and AG*SAT, help set the stage for cooperation and collaboration in higher education, but many observers stress the need for more meaningful coordination at the state level. Berdahl (1990) observed: "The consortium movement in the U.S. bears witness to the limits of inter-institutional cooperation. It can accomplish much that is good, but normally it cannot reconcile strong clashes in institutional ambitions." Political decisions to merge all universities and colleges into one consolidated university, Berdahl cautions:

> can lead to too much accountability and too little autonomy (certainly at the level of the individual campus). In rejecting both voluntary cooperation and consolidated governance as effective means of reconciling the legitimate perspectives of both academe and government, coordination is left as the most desirable (or least undesirable) means of accomplishing this vital process. (pp. 39-40)

Hezel (1990) suggests: "The ideal may prove to be to develop generalized policy and funding at the federal level, with a centralized core of policy and technology planning at the state level, to guide local technology decisions and implementation" (p. 5). Schachter (1986) notes: "In the 1960s and 1970s, every American state legislature strengthened or established coordinating mechanisms to link public and private colleges and universities in an attempt to stem duplication and overlap, reduce tension among providers and enhance service articulation" (p. 333).

Pettit and Kirkpatrick (1984) perceived the coordinating bodies to be increasingly coherent and influential:

> These "SHEEOs," as they are called, are the men and women who deal directly with these *value* conflicts in the American political culture that affect higher education: *diversity and autonomy versus standardization and control.* No other position, at least in *public* higher education, is as critical to the resolution of such conflicts or the shaping of state higher education profiles.
>
> If indeed these state level higher education executives serve duty on the dangerous mine field between academe and government, we need to know what life in that sector is like. To ignore that terrain is to prevent an understanding of what may well be the most critical linkage in state and policy making for higher education (pp. 14-15).

Floyd (1982) cautioned: "Political, economic, and philosophical factors will all contribute to instability and unpredictability and will make it more difficult for the statewide board to exercise leadership" (p. 39). Smith (1983) also questioned whether coordinating boards were "equipped to provide leadership for change" (p. 32). He observed that, in terms of numbers of new colleges, campuses, and programs, higher education was experiencing "as many wakes as Christenings" (p. 31) and stressed that there continues to be an urgent need for leadership:

> It does not take great foresight to recognize that businesses and industries which will thrive in the twenty-first century will be those taking full advantage of fast-paced changes in communication and computing technologies. The same is true of colleges and

universities. They must learn to use these technologies well. This is an area in which colleges and universities should be significantly ahead rather than falling further and further behind.

Governing and coordinating boards must be careful not to allow the new technologies to deteriorate in the new educational fetish of the late twentieth and early twenty-first centuries (p. 33).

Accepting satellites and computers as "technical marvels," Smith cautions that "they will never become acceptable substitutes for men and women taught by institutions of higher education to think, reason, and plan for the future" (p 33).

In October 1985, the Project on Assessing Long Distance Learning Via Telecommunications released its final report (Chaloux, 1985). The report was the culmination of a three-year cooperative project sponsored by the Council on Postsecondary Accreditation (COPA) and SHEEO, which was supported through a grant from the Fund for the Improvement of Postsecondary Education of the U.S. Department of Education. This grant supported various task forces and research activities related to assessing the regulatory policies and practices of the accrediting agencies and state higher education coordinating boards, with the overall objective of simply getting a handle on "what's out there" and future directions. In its recommendations for further study, the report suggested regional accrediting bodies and COPA, as well as state higher education coordinating agencies and SHEEO, develop certified "Institutional Profiles" to serve as "coin of the realm" for state agencies and accrediting bodies

regarding the delivery of course instruction through telecommunications (Chaloux, 1985, p. 87). The same report also recommended:

> SHEEO must take...a leadership role in those states which have no authorization legislation or which have ineffective legislation. Without all states having baseline legislative requirements, unscrupulous institutions will have a haven from which to operate. This is not to suggest that common regulations, standards, and criteria are an objective–the sovereignty of the states to conduct authorization activities as they wish cannot be impinged upon–yet establishing reciprocal arrangements which bridge these differences is a reasonable objective. (p. 88)

Summary

This chapter has presented a brief review of literature illuminating the use of telecommunications for distance-based education (both informal extension education and the more formal instruction associated with post-secondary education offered at two- and four-year degree-granting institutions) within the context of the change model described by Fullan and Stiegelbauer (1991). Focus was brought to the need for active involvement of state coordinating boards in the development and coordination of policies associated with the use of telecommunications for delivery of postsecondary education. It has been demonstrated that much more literature is available on the topic of telecommunications and its use for distance education than exists on research related to the role of state coordinating boards in adapting the media for meaning in educational change.

CHAPTER III

METHODOLOGY

State higher education executive officers throughout the United States and the District of Columbia were surveyed in conducting this assessment of the distance education policies and regulations now in place at the state level throughout the United States. The study was undertaken to gain insight into the perspectives of the educational leadership regarding the relevance of these policies to telecommunications-related issues and opportunities facing postsecondary education. This chapter describes the research design through which the study was conducted. The presentation is as follows: (1) definition and selection of population, (2) research instruments, and (3) the procedures used in data collection and analysis.

Definition and Selection of Population

Due to the focused scope of this study, the total population of state higher education executive officers throughout the United States and District of Columbia was included. The population was defined by the current (January 1995) listing of these officials as provided by the State Higher Education Executive Officers (SHEEO) organization.

Forty-nine states, the District of Columbia, and Puerto Rico were members of SHEEO in January 1995. Wyoming is not a member of SHEEO because there is only one four-year institution within that state's geographic boundary. Because of the effort to obtain data from each state,

the Community College Commission in Cheyenne, Wyoming was added to the population. Puerto Rico was not included in the population. In states where more than one individual was listed on the SHEEO mailing list, the first listing was selected solely on the basis of alphabetical prominence.

Research Instruments

Two separate instruments were used in this study: (1) a printed questionnaire distributed to the SHEEO members through FedEx (Appendix A), and (2) a follow-up questionnaire used in telephone interviews with the nonrespondents (Appendix C).

Questionnaire

The questionnaire was developed according to guidelines presented in Bradburn and Sudman (1988), Dillman (1978), and Fowler (1984). Considerable thought was given to the nature of mail questionnaires in regard to "open-ended" questions. Fowler states without hesitation that "self administered questionnaires should be limited to closed answers" (1984, p. 103). Dillman cautions:

> The absence of an interviewer puts the mail questionnaire at a very distinct disadvantage. Not only do some people find it more difficult to express themselves in writing than orally, but the absence of the interviewer's probes frequently results in answers that cannot be interpreted and sometimes in no answer at all. The difficulty of open-ended questions and the near impossibility of solving it represents one of the most severe shortcomings of mail questionnaires (p. 58).

Bradburn and Sudman (1988) assert that "Mail questionnaires can be effectively used with respondents who have experience in dealing with written materials and above-average motivation to participate in the surveys" (p. 103). These authors consider the principal problem in the design of mail questionnaires to be making questions unambiguous, so respondents do not need to puzzle over a question's meaning.

Assumptions which need to be noted here are that the population contacted for this study consists of individuals: (1) who are experienced with written materials, (2) can express themselves in the written word as well as orally, and (3) have high motivation to participate in a survey dealing with the topic at hand.

Development

Ultimately, the questionnaire was designed with both open and closed questions. Questions focused on sources of innovation, the meaning of change, and factors affecting implementation and continuation of delivering postsecondary education via telecommunications.

A draft copy of the questionnaire was then sent to nine reviewers in six states who are knowledgeable about and interested in distance education at the postsecondary level. The panel consisted of two academic deans, two directors of continuing or extension education, two professors currently serving as coordinators of distance education at their respective land-grant universities, the academic vice president of a major distance education consortium, a professor of statistics, and a professor of education. All but one of the panel members responded. Each had recommendations for improving the instrument; none suggested eliminating the open-ended questions. Once the questionnaire was

rewritten to reflect the panel's recommendations, the data collection procedure began.

Data Collection Procedure

The strategy employed for encouraging response is a minor modification of Fowler's (1984) scheme for reducing nonresponse to mail surveys through repeated contact (p. 54) and is presented in Table 1. Nine days after the initial mailing, a post card was sent to nonrespondents (Appendix B). The message on the card reminded the recipient that a questionnaire had been sent on January 16th, that a FedEx PAK had been provided for expense-free return of the questionnaire and related documents, and that we placed high value on a response from each state. The investigator's return address, phone number, and FAX number were included to make it easy for recipients to make contact in the event they had not received the material, had misplaced it, or had questions about the survey.

One week later (February 1, 1995), a personalized letter of endorsement for the study was sent to each nonrespondent from Dr. Hans Brisch, Chancellor of the Oklahoma State Regents for Higher Education, on official stationery from his office (Appendix B). Dr. Brisch's letter spoke of the potential value of the data and noted that such value increases with the response rate.

Ten days later, the date participants were initially asked to return the questionnaire and related documents, another mailing was prepared for nonrespondents which included a letter advising the recipient of the importance of each state's participation, but also restating that

Table 1

A Scheme for Reducing Nonresponse

Date	Activity	Cumulative Response Rate to Date	
		N = 51	Percentage
January 16, 1995	Cover Letter, Questionnaire, PAK for Return sent via FedEx	–	–
January 25, 1995	Post Card Reminder Sent via U.S. Mail	12	23.5
February 1, 1995	Chancellor's Endorsement Sent via U.S. Mail	21	41.2
February 11, 1995	Second Letter and Additional Copy of Questionnaire Sent via U.S. Mail	31	60.78
March 6, 1995	Telephone Follow-up and Interview	40	78.4
March 14, 1995	Last Day Responses Accepted	47	92.15

participation was voluntary (Appendix B). This mailing, which was sent via the U. S. Postal Service in a green-and-white envelope, included another copy of the questionnaire–with the deadline date changed (in red ink) to February 24, 1994–and a return envelope with two First Class postage stamps affixed.

The response rate reached 78.4 percent prior to implementation of the telephone follow-up on March 6, 1995 and increased to 92.15 by March 14, 1995 (Table 1). This response rate should be considered better than average, based on Fowler's (1984) observations:

> The difficulties of getting the response rate to a reasonable level will depend on the nature of the sample, the nature of the study, how motivated people are, and how easy the task is for them. Clearly, the task will be easier if the sample is composed of motivated, well-educated individuals. However, Dillman has obtained response rates over 70 percent with general population samples, using only mail procedures (Dillman et al., 1974). Hochstim (1967) obtained response rates over 80 percent with telephone and personal follow ups. If the researcher will be persistent, and if it is a reasonably well conceived and well-designed study, acceptable response rates can be obtained by mail. (p. 55)

Several attempts were made to attract the recipient's attention and to imply urgency through the initial mailing. All communications were personalized for each recipient. The initial letter and questionnaire were sent by FedEx to arrive on January 17, 1995. The cover letter was prepared on stationery from the Office of Academic Programs, College of Agricultural Sciences and Natural Resources, Oklahoma State University.

The questionnaire was printed on colored paper to help keep it more visible on the recipient's desk and a FedEx PAK was included with the first mailing to help facilitate the respondents' return of all documents at no expense to their respective offices.

Bradburn and Sudman (1988) recommend a well-written cover letter, multiple mailings, and "a small monetary gift, usually a dollar" (p. 104) to increase motivation to respond. The only "gift" offered participants in exchange for completing and returning the questionnaire was a copy of the summary information at the conclusion of the study (Appendix B).

The post card reminder, mailed on January 25, 1995, provided another opportunity to attract attention because postage rates had just increased, necessitating the addition of a colorful one-cent stamp to the already colorful U.S. Postal Service card. Both the message and mailing surface were imprinted directly on each card using a desk-top laser printer.

After reviewing information on constructing telephone questionnaires (Dillman, 1978), the instrument used for the mail survey was adapted for telephone use (Appendix C). Eleven nonrespondents were identified following the final mail delivery on March 3, 1995 (one week after the "adjusted" deadline of February 24, 1994), and the telephone contact began the following Monday, March 6, 1995.

Analysis

The population size, combined with the brevity of the questionnaire, allowed for a manual tally (frequency count) of responses. Descriptive statistics are presented in Chapter IV (Tables 2 through 6). Content analysis of existing policies and other documentation returned by

respondents reveals how many of the issues identified by the respondents are directly addressed in existing published policy or guidelines (Table 6).

Summary

This chapter has provided the reader with a comprehensive explanation of the methodology employed in this study including how the population was identified, how the questionnaire and telephone survey instrument were designed, the strategy employed to keep nonresponse to a minimum, and how analysis was approached. In the next chapter, more precise descriptions of the population of respondents, the materials returned with the questionnaires, and findings will be presented along with an analysis of those findings.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

The purpose of this study was to describe the distance education policies and regulations now in place at the state level throughout the United States; describe perspectives of educational leadership of coordinating boards regarding the meaning of these policies to telecommunications-related issues and opportunities facing postsecondary education; and to examine the usefulness of The New Meaning of Educational Change (Fullan & Stiegelbauer, 1991) in making sense of what is happening. The study was conducted in the form of a mail questionnaire which included both open and closed questions. The instrument was sent to representatives of state higher education coordinating bodies in each state as well as the District of Columbia. The questionnaire is presented as Appendix A; associated correspondence is presented as Appendix B. Results reported also include data gathered through a follow-up telephone interview (Appendix C) conducted on March 6, 1995.

This chapter offers a detailed description of respondents and response patterns. Next, the findings of the study are presented, both in terms of responses to the questionnaire and in terms of a description of official policy statements, procedural guidelines, and other documentation included with the questionnaires returned by respondents. An analysis of responses to the questionnaire, followed by an analysis of the additional

documentation provided by respondents, is presented from the perspective of Fullan and Stiegelbauer's (1991) discussion of (1) sources of innovation, (2) the meaning of change, and (3) factors affecting implementation and continuation.

The discussion of findings in this chapter includes the response rates for each item, sample size, and the overall percentage of returns as suggested by Gay (1992, p. 230) and offers some data in tabular form in a format similar to that proposed by Fink and Kosecoff (1985, p. 78).

Respondents

Responses from 46 states plus the District of Columbia were received. The states represented by the respondents are geographically diverse, including both continental and non-contiguous representation (Table 2). States not responding prior to March 14, 1995 are Georgia, Iowa, Maine, and New Mexico. The 47 respondents provided 44 completed questionnaires and one completed telephone interview; two of the respondents returned the questionnaires without completing them

As of March 6, 1995, 40 responses had been received (Table 1, page 41). Offices of the 11 nonrespondents were then contacted by telephone. Three individuals indicated work on the questionnaire was still in progress and that the questionnaire would be returned; six offices promised a return call; one individual indicated she had put the questionnaire in the mail on March 3, 1995; and one consented to a telephone interview after stating he did not intend to complete the questionnaire. Ultimately, the telephone follow-up effort resulted in an overall response rate of 92.15 percent. The coordinating boards participating in the study and their modes of response are identified in Table 2.

Table 2

Coordinating Boards Participating in Study

Location	Response Mode	Questionnaire Returned By	Additional Documents Provided
Alabama	U.S. Mail	Delegate	No
Alaska	Telephone	Addressee	No
Arizona	FedEx	Delegate	Yes
Arkansas	FedEx	Delegate	No
California	FAX	Delegate	No
Colorado	FedEx	Delegate	Yes
Connecticut	U.S. Mail	Addressee	No
Delaware	FedEx	Addressee	No
District of Columbia	FedEx	Addressee	No
Florida	FedEx	Delegate	Yes
Hawaii	FedEx	Delegate	Yes
Idaho	U.S. Mail	Addressee	Yes
Illinois	FedEx	Delegate	Yes
Indiana	U.S. Mail	Delegate	Yes
Kansas	FedEx	Delegate	No
Kentucky	FedEx	Delegate	Yes
Louisiana	FedEx	Delegate	Yes
Maryland	FedEx	Delegate	Yes
Massachusetts	FedEx	Delegate	No

Table 2 (continued)

Coordinating Boards Participating in Study

Location	Response Mode	Questionnaire Returned By	Additional Documents Provided
Michigan	FedEx	Delegate	Yes
Minnesota	FedEx	Delegate	Yes
Mississippi	FedEx	Delegate	Yes
Missouri	FedEx	Delegate	Yes
Montana	FedEx	Delegate	Yes
Nebraska	FedEx	Delegate	Yes
Nevada	FedEx	Delegate	Yes
New Hampshire	FedEx	Delegate	No
New Jersey	FedEx	Delegate	No
New York	FedEx	Delegate	Yes
North Carolina	FedEx	Delegate	No
North Dakota	FedEx	Delegate	No
Ohio	FedEx	Delegate	No
Oklahoma	FedEx	Delegate	Yes
Oregon	FedEx	Delegate	Yes
Pennsylvania	FedEx	Delegate	No
Rhode Island	FedEx	Delegate	No
South Carolina	U.S. Mail	Delegate	Yes
South Dakota	FedEx	Addressee	Yes
Tennessee	U.S. Mail	Delegate	No

Table 2 (continued)

Coordinating Boards Participating in Study

Location	Response Mode	Questionnaire Returned By	Additional Documents Provided
Texas	FedEx	Delegate	Yes
Utah	FedEx	Delegate	Yes
Vermont	U.S. Mail	Delegate	No
Virginia	FedEx	Delegate	Yes
Washington	FedEx	Delegate	No
West Virginia	FedEx	Delegate	Yes
Wisconsin	FedEx	Delegate	No
Wyoming	FedEx	Delegate	No

Twenty-six respondents forwarded copies of state policy, guidelines, and/or other documentation relevant to the use of telecommunications for distance education. Twenty-nine separate documents containing *official* state policy and/or regulations were provided by only 18 of these respondents. Twenty-two additional documents provided by this group of respondents included coordinating board annual reports, reports and recommendations from special task groups and committees, SHEEO statements, state planning documents, electronic classroom specifications, and maps. Of the 26 documents containing official policy, regulations, and/or guidelines for distance education using telecommunications technology, most are less than 3 years old. Eighteen (just over 69%) were written or revised in 1992 or later. Four of these carry 1994 dates, one is dated 1995 and two are currently being revised. Fourteen of the 22 unofficial documents are less than three years old.

Interest in Updated Information

Respondents were asked: "How often would you like to receive updates of the baseline data generated by this study?" Options offered for response were (1) every three years, (2) every five years, and (3) an opportunity to specify "other" frequencies. Of 42 responses to this question, 31 (73.8%) indicated an update would be appreciated every three years; three respondents chose every five years; and eight respondents chose "other," indicating one or two years between updates would be ideal. One respondent indicated his office already received adequate amounts of information on the topics of distance learning and emerging technologies and that updates of data generated by this study are not needed.

Presentation of Data

Data from the questionnaire are grouped from the Fullan and Stiegelbauer (1991) perspective discussed earlier: (1) sources of innovation, (2) the meaning of change, and (3) factors affecting implementation and continuation. Twenty-six respondents provided additional documentation as requested when they returned their questionnaires. Data gathered from content analysis of official policy statements included in the mailings follows the presentation of data from the questionnaires.

Sources of Innovation

It is important to know the source of distance education policies as well as where responsibility rests for coordination and implementation of established policy. There were 44 responses to the question: "Does the coordinating board for public institutions of higher education in your state have authority and responsibility for developing, implementing, and coordinating policies which impact the use of telecommunications for delivering postsecondary education?" Precisely half of the respondents said "yes;" 15 (34.09%) reported shared responsibility with another office or agency; five indicated such responsibility rests entirely with another entity in the state's governmental structure; and one respondent reported that no office or agency has such responsibility or authority.

Telecommunications technology is currently used to deliver postsecondary education in 44 states (100% of those responding to the fourth item on the questionnaire).

In response to "Does your state have policies designed specifically to govern the use of telecommunications for distance learning?" half (22 of 44 respondents) answered in the affirmative. An equal number of

respondents indicated their respective states have no such policies. As requested, 18 respondents included some documentation associated with or in support of their responses to this question. Three individuals who indicated such state policies are in place did not provide copies. (One respondent offered to sell the documentation for $5.00 and included instructions for placing an order.)

The Meaning of Change

One element of the questionnaire design was to have respondents describe the *meaning* of policies designed to govern the use of telecommunications for delivery of postsecondary education. Participants were asked to report both advantages and disadvantages of using the technology for this purpose, which of these are addressed by existing policy, and what needs and/or opportunities remain for policy to deal with.

Advantages. Respondents reported the major advantages of using telecommunications for distance learning (question 5) as well as which of these advantages have been either enhanced (question 6), restricted, or overlooked (question 7) by established state policies or procedural guidelines. Table 3 presents these data as reported by 4 or more respondents.

Other advantages (cited by only one to three respondents each) include improved faculty-to-student and student-to-student communication, increased variety of offerings, reduced number of sections, use of telecommunications may lead to faculty's use of other media, useful for post-graduate instruction, avoiding duplication, sustaining rural education and health delivery, and the ability to get programs from out-of-state.

Table 3

Advantages of Using Telecommunications for Distance Learning

	Number and Percentage of Respondents Identifying Advantage					
			Enhanced by Policy		Restricted by Policy	
Advantage	N = 42	Percentage	N = 36	Percentage	N = 26	Percentage
Access	38	90.47	19	58.33	3	11.54
Resource Sharing	16	38.09	6	16.66	2	7.69
Cost Effectiveness	15	35.71	8	22.22	4	15.38
Enhanced Quality	9	21.43	1	2.77	0	–
Expansion of Service Area	8	19.05	2	5.55	1	3.85
Reduced Travel	6	14.28	0	–	0	–
Convenience	4	9.52 s	0	–	0	–

Disadvantages. Question 8 asked respondents to report the major disadvantages of using telecommunications for distance learning (Table 4). Disadvantages mentioned only once or twice among all responses include the need for students and faculty to possess a higher level of technical expertise, unrealistic expectations of the technology, political opposition from faculty bargaining units, difficulty in continuity for earning a degree, inequitable resource distribution, not all subjects can be adapted to the technology. Question 9 asked which of these disadvantages have been addressed by established state policies or procedural guidelines. Table 4 presents the major findings associated with both questions 8 and 9.

Respondents were evenly split on their perception of effectiveness of policies put in place to address specific issues. Twelve of the respondents said policies adequately respond to the issues they are intended to address; an equal number said policies do not adequately respond to the issues; one respondent said "yes and no" and another indicated it is "too early to tell."

Ten respondents elaborated on these responses, adding that policies are effective "at this point in time;" that existing policies do allow for expansion and change; existing policies are adequate, but dated; and that the use of telecommunications technology is a dynamic process requiring "time, energy, and goodwill."

Table 4

Disadvantages of Using Telecommunications for Distance Learning

	Number and Percentage of Respondents Identifying Disadvantage			
			Addressed by Existing Policies and/or Guidelines	
Disadvantage	N = 40	Percentage	N = 20	Percentage
Associated Costs	22	55	5	25
Loss of Personal, Collegiate Experience	15	37.5	4	20
Faculty Preparedness	10	25	3	15
Quality Control	9	22.5	2	10
Reduced Access to Library and Other Resources	6	15	1	5
Competition (Turf Issues)	4	10	1	5
Difficulty of Coordination	4	10	5	25

Needs. Table 5 presents factors cited by more than 10 percent of the respondents when asked to report important issues, opportunities, and/or shortcomings which have not yet been dealt with in state policies (question 11).

Although cited less frequently, usually by only one or two respondents, several other factors were identified as issues or opportunities which still need to be addressed by state policy: equitable access for all areas of the state; competition; special educational tariffs to facilitate use of the technology; intellectual property rights; faculty workload and compensation; use of computers and multi-media systems; equipment protocol/compatibility among institutions; procedures for addressing support issues; institutional role assignments; student services; course/program development; integration of technology across sectors of government; K-12, college and other institutional coordination; and development of public/private partnerships.

When asked if activities were currently underway to address issues cited in response to question 11, 37 individuals responded. Of these, the majority (81.08%) answered in the affirmative.

When comments were added to elaborate on the response, 25 of the respondents (67.56%) mentioned that a special task force, the coordinating board, or some other entity was currently engaged in assessment and planning activities associated with telecommunications and/or distance education.

Table 5

Issues, Opportunities, and Shortcomings Not Yet Addressed by State Policy

	Number and Percentage of Respondents Identifying Opportunity, Issue, or Shortcoming	
Opportunity, Issue, or Shortcoming	N = 39	Percentage
Resource Sharing (including multi-state sharing)	7	17.94
Funding	6	15.38
Planning	5	12.82
Infrastructure	5	12.82
Policy Does Not Address Issues	6	15.38

Factors Affecting Implementation

The perception that established policy has genuine meaning and the apparent confidence in the planning process for directing future change are two factors which have potential for positively affecting implementation and continuation of telecommunications applications for delivery of postsecondary education. Other important factors include consortial agreements, emerging computer and communications technologies, and *system* development.

Consortial agreements. Question 13 asked if the respondent's state had reciprocal, cooperative, and/or consortial agreements with other states regarding common regulations, standards, and criteria. Only six of 41 respondents (14.63%) answered in the affirmative, and only one of these included a copy of the agreement with the response. Twenty-nine (70.73%) of the respondents reported "no". Four individuals (9.75%) reported some effort is currently underway to develop such agreements.

Emerging technologies. Forty individuals responded to the question: "In your opinion, what impact will technologies which do not allow for immediate interaction between teacher and learner (such as CD-ROM and servers on the internet) have on delivery of postsecondary education?" Fifteen of the respondents (37.5%) indicated a belief that these technologies would increase in use, impact, and importance. Expanded access was mentioned as a perceived impact by 7 respondents (17.5%); precisely the

same number declared there would be minimal impact or no difference in impact from that experienced with other technologies.

When asked if unique policies would be needed to govern the use of these technologies for delivery of postsecondary instruction, ten of 37 responses (27.02%) were "yes" while eight (21.68%) offered a negative response. Five individuals (13.5%) indicated they did not know and five recorded "possibly," "perhaps," or "probably."

System development. Question 16 asked: "Does your state plan to develop a new system or improve an existing system for delivery of postsecondary education via telecommunications?" Thirty-four of the 42 respondents (80.95%) checked the "yes" response; 4 checked "no," and three indicated the potential for such development is under consideration.

When asked about the major issues and/or concerns which have most contributed to a lack of or limited participation in distance education to date, 30 of 44 respondents (68.18%) cited *cost* or *funding*. Six (13.63%) of those responding to this question expressed the opinion that their states are "active" or already perceived to be leaders in the application of telecommunications technology for distance education.

Telecommunications in Postsecondary Education Policy

Table 6 shows the ten factors most often cited in the *official policy* or *regulatory* statements as determined through content analysis of the documentation provided by the respondents.

Table 6

Ten Most Frequently Cited Factors Addressed in Distance Education Policy/Procedure Documents from Eighteen States

Factor	Number and Percentage of Documents Citing Factor N = 26	Percentage
Ensure a Level of Quality Equivalent to Traditional Instruction	17	65.38
Ensure Access to Support Services (Faculty, Library, etc.)	11	42.30
Ensure Equal Access to Statewide System	13	50
Process Described for Conflict Resolution	11	42.30
Funding, Tuition, Fees, Shared Costs, etc.	12	46.15
Monitoring and Assessing Student Performance	8	30.76
Advisement and Communication with Students	8	30.76
Faculty Qualifications, Appointments, Evaluation, etc.	8	30.76
Defined Priorities for Access to Telecommunications System	7	26.92
Encourage the Development of Technology for Education	7	26.92

Four of the official documents in the sample made no clear reference to the use of telecommunications for delivery of postsecondary education. Just under 35 percent of the policy statements (9 of 26) included definitions relevant to policies intended to coordinate the use of telecommunications for delivery of postsecondary education.

Process in Policy

Just over 19 percent (5 of 26) encouraged needs assessment as part of the planning process, increased interinstitutional cooperation, expanded degree-completion opportunities for place-bound students, and/or evaluation of educational materials used for distance learning efforts.

Institutional Issues

Factors cited in official policy from three different states were admission requirements and specific approval procedures for courses, programs, and activities associated with distance learning at the institutional level.

Other factors addressed less frequently by postsecondary distance education policy in the 18 states include interinstitutional cooperation, faculty concerns, and student-oriented issues. Those most closely associated with the coordinating role include technical capacity, day-to-day management of the system, out-of-state access, distinctions between originating and sponsoring schools, improved coordination, and avoidance of duplication. Issues of interinstitutional cooperation include agreement on technical standards, transfer of credit, transcript responsibility, third

party requests for credit, contracts for delivering instruction, and whether a physical presence in the state is required. Student oriented issues include provisions for student complaints and grievances, waiving the rules, exemptions for continuing education and other non-credit extension efforts. Faculty concerns cited in the documents include compensation, faculty development, copyright, and intellectual property rights.

Analysis

This study was designed to conduct descriptive research "to determine and report the way things are" (Gay, 1992, P. 13). The following analysis examines the data within the conceptual framework presented by Fullan and Stiegelbauer in The New Meaning of Educational Change (1991) which includes discussion of: (1) sources of innovation, (2) the meaning of change, and (3) factors affecting implementation and continuation. Perspectives on change and planning will be discussed in more limited detail.

Sources of Innovation

Technology. Fullan and Stiegelbauer (1991) identify technology as one source of pressure for educational change. Data from this study suggest there is considerable faith in the soundness of the telecommunications technology for delivery of postsecondary education and that positive outcomes play a role in the promotion of change. In regard to an apparent belief in the soundness of technology, 100 percent of the respondents said telecommunications technology is currently used for delivery of postsecondary education in their respective states.

On the other hand, responses to a question about technology with which we are less experienced were less consistent. When asked for an opinion regarding the impact of technologies which do not allow for immediate interaction between teacher and learner (such as CD-ROM and servers on the internet), responses were quite mixed as reported above.

Fullan and Stiegelbauer (1991) observed that earlier research on the initiation and implementation process focused on the *nature* of the innovation. Likewise, much of the literature reviewed in Chapter II focuses on the nature of the telecommunications technology itself. Fullan and Stiegelbauer (1991) contend that the limitations of such focus are compounded by the fact that many innovations are put in place without careful examination of whether they address perceived *needs*. Only 4 of the policy statements analyzed as part of this study make any reference to, or cite a requirement for, needs assessment associated with the use of telecommunications for delivery of postsecondary instruction.

Government. Fullan and Stiegelbauer (1991) value governments as sources of innovation, but they caution that "the educational basis for decisions is often questionable" (p. 23). These authors also stress that roles of both government and education are mixed in the process of educational change:

> Politically motivated change is accompanied by greater commitment of leaders, the power of new ideas, and additional resources: but it also produces overload, unrealistic time-lines, uncoordinated demands, simplistic solutions, misdirected efforts, inconsistencies, and underestimation of what it takes to bring about reform. (p. 27)

It is important to note that a primary role of state coordinating boards for higher education is to balance the inputs of political interests with the

mission of educational institutions and the needs of the people they serve. (See Floyd, 1982; Honig 1984). Educational institutions are more likely to implement first-order change (altering existing practice); governments, on the other hand, frequently are in a position to advocate second-order change (altering fundamental structure, roles, etc.). Coordinating boards need to consider both orders of change simultaneously.

There is nothing in the collected data to suggest that respondents give excessive attention to first-order changes as compared with second-order reform. By their very nature, state coordinating boards are faced with the need to consider change of both orders. Data presented in Tables 3, 4, and 6 (pp. 53, 57, & 60) support the notion that coordinating boards place considerable importance on first-order change with major emphasis on access, resource sharing, cost effectiveness, enhanced quality, and faculty-student interface.

Data presented in these same tables indicate that second-order changes, which may be more driven by the technology, are given attention, but less prominence by respondents. Care must be taken to recognize the complexity of the topic at hand and recognize that both types of change are intimately associated. The focus on one order of change as compared with the other may be nothing more than a reflection of where in the process of change the individual respondent is currently found.

The Meaning of Change

Fullan and Stiegelbauer (1991) give prominence to the outcome factor in their model for change (p. 48) and contend that *real* change results from shared meaning: "The interface between individual and collective meaning and action in everyday situations is where change stands or falls" (p. 5).

Outcomes associated with needs of faculty, students, institutions, and communities received considerable emphasis both in response to the questionnaire and as treated in existing policy. Perceived advantages of using telecommunications for distance learning were most often expressed in terms of outcomes (Table 3, p. 53) and the most frequently addressed factors in existing policy documents focus on needs of the local institution, the student, and the system at large (Table 6, p. 60).

> Real change, then, whether desired or not, represents a serious personal and collective experience characterized by ambivalence and uncertainty; and if the change works out it can result in a sense of mastery, accomplishment, and professional growth. The anxieties of uncertainty and the joys of mastery are central to the subjective meaning of educational change, and to success or failure–facts that have not been recognized or appreciated in most attempts at reform. (p. 32)

The concept of objective reality is central to this study because of the existence of statewide policies, regulations, guidelines, and procedures which may or may not address the potential impact of rapidly changing telecommunications technologies on the delivery of postsecondary education. The data generated by the questionnaire used in this study provides some insight into the more subjective perspective of those responsible for providing leadership to the coordinating activity in higher education.

On the other hand, data drawn from official, established policies and legislation provide a more objective reality if we are willing to accept the assumption that these policies and regulations were written with the benefit of consulting and/or understanding a variety of perspectives. The

merging of subjective reality and objective reality is evident in the data when collective responses to the questionnaire are compared with factors actually written into recent official state policy.

For example, factors perceived as major advantages of using telecommunications for distance learning (access, resource sharing, costs, quality, etc.) and associated disadvantages (high start-up costs, loss of the traditional college experience, difficulty of assessment, turf issues, etc.) are among the top ten factors addressed in official distance education policy provided by respondents in 18 states (Tables 3, 4, & 6, pp. 53, 55, & 60). When asked if, in the respondent's opinion, policies or guidelines adequately respond to the issues they are intended to address, almost half said "yes;" an equal number said "no." Better than 86 percent of respondents perceive there are still some issues, opportunities, and shortcomings that have not yet been addressed by state policies. Over 15 percent believe that policy ignores all issues associated with the use of telecommunications for delivery of postsecondary education (Table 5, p. 57).

Implications of both subjective and objective realities, as illuminated by Fullan and Stiegelbauer (1991), emphasize that the process of understanding, accepting, and implementing change does not happen rapidly. Depending upon an individual's current role, and where the pressure for change is coming from, the respondent's view may be more subjective than objective. The importance of clear statements early in the change process along with other mechanisms to continually address the ongoing need for meaning cannot be ignored, whether change is initiated by the individual or imposed by another.

Factors Affecting Implementation

Data relevant to the implementation phase of the change process include responses associated with perceived barriers to change and what action is being taken to overcome these barriers. Financial concerns overwhelmingly dominate the barrier perspective; to address the need, most respondents place emphasis on planning efforts.

In Chapter I, it was noted that Fullan and Stiegelbauer (1991) caution those who would promote change that "strong commitment to a particular change may be a barrier to setting up an effective process of change" (p. 95) and that promoters of change need to be as skilled in the change *process* as they are in the proposed change. In Chapter II, additional references to barriers to change are illuminated through the review of literature associated with the use of telecommunications for delivery of postsecondary education.

When asked about the major issues and/or concerns which have most contributed to a lack of or limited participation in application of telecommunications technology for distance education to date, 30 of 44 respondents (68.18%) cited cost or funding–an input instead of an outcome–as the primary barrier. Six of those responding to this question expressed the opinion that the state was "active" or already a leader.

Because change is a process, careful planning cannot be overlooked as a prerequisite to implementation. Fullan and Stiegelbauer (1991) say planning fails because of planners' assumptions and unsolvable problems. They list ten "do" and "don't" assumptions about change for would-be planners (pp. 105-107). This study stops short of examining the current status of the planning process on a state-by-state basis. However, the importance of planning was not overlooked by respondents in their

consideration of factors associated with the use of telecommunications for distance education. When asked if activities are currently underway to address critical issues (question 12), an overwhelming majority mentioned that a special task force, the coordinating board, or some other entity was currently engaged in assessment and planning activities associated with telecommunications and/or distance education. Six of 44 respondents cited lack of planning or lack of "vision" as factors which have most contributed the state's lack of or limited participation in distance learning activities to date (question 17). Also, existing policy in many states calls for, and in some cases precisely describes, a planning process as a prerequisite to making application to offer postsecondary education through distance education technology.

Summary

This chapter provided descriptions of the rate of response, geographic distribution of respondents, and responses to specific questions included in the research instruments. The presentation of findings was further illuminated through an analysis of responses to the questionnaire and telephone survey. Content analysis of official policy documents collected as part of the study was also presented. Analysis was presented within the conceptual framework developed by Fullan and Stiegelbauer in The New Meaning of Educational Change (1991).

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND COMMENTARY

The availability of communications and computer technologies has expanded dramatically throughout the world over the past 45 years, but application of telecommunications technology for the delivery of postsecondary education is still limited in the United States. One factor contributing to the limited use of telecommunications in postsecondary education is the existence of policies which may discourage such practice. For public institutions of higher education, which are bound by rules and regulations for delivery of postsecondary educational courses, a lag between the availability of technology and its appropriate use is accentuated by state policies that either promote or inhibit deployment (Eure, Goldstein, Gray, & Salomon, 1993). Fullan and Stiegelbauer (1991) would attribute the time lag between the availability of emerging technologies and their application to needs in higher education to the complexity of the change *process*.

The purpose of this study was to describe the distance education policies and regulations now in place at the state level throughout the United States; describe perspectives of the state coordinating board leadership regarding the meaning of these policies; and to examine the usefulness of The New Meaning of Educational Change (Fullan and Stiegelbauer, 1991) as the conceptual framework for the study.

Chapters I through IV presented details about the design of the study, a review of selected literature, methodology employed in the study, and analysis of the data. This chapter summarizes the content presented in the preceding chapters and presents conclusions, recommendations, and candid commentary.

Summary

The significance of the study in terms of research is that it adds to an extremely small body of literature related to the role of state coordinating boards. From a practical perspective, the study should prove useful to higher education coordinating boards struggling with questions of funding, access, and other constraints and opportunities for meaningful change. The theoretical significance is the anticipated confirmation that change theory, as presented by Fullan and Stiegelbauer (1991), is relevant to change in postsecondary education.

Conceptual Framework

As indicated above, The New Meaning of Educational Change (1991) by Michael G. Fullan with Suzanne Stiegelbauer provides the conceptual framework for the study. These authors emphasize that change is a complex process, not a singular event. They examine the process through several case studies associated with elementary and secondary schools. This study brings the focus to postsecondary education and examines innovations in distance education from a three-pronged perspective: (1) sources of innovation, (2) the meaning of change, and (3) factors which affect implementation and continuation.

Procedures

The study surveyed the population of coordinating boards in 49 states and the District of Columbia, and the Community College Commission in Cheyenne, Wyoming (N =51). With the exception of Wyoming, participants were those listed as current members of the State Higher Education Executive Officers (SHEEO) organization.

Two separate instruments were employed in the study: (1) a questionnaire mailed in mid-January and (2) a telephone survey employed in early March 1995. The questionnaire, based on design recommendations of Dillman (1978), Fowler (1984), and Bradburn and Sudman (1988), was mailed to participants on January 16, 1995. A modification of Fowler's (1984) strategy for reducing nonresponse was employed and resulted in a response rate in excess of 90 percent. The questionnaire, related correspondence, and the follow-up telephone survey are presented as Appendixes A, B, and C, respectively. Data reported includes that collected through both means and received by March 14, 1995 (more than one month after the original requested return date for the questionnaire). Additional information was requested from respondents in the form of existing documents which could illuminate individual responses. Data includes a content analysis of all official policies, regulations, and legislation provided by the respondents.

Data

Responses were received from 46 states and the District of Columbia (92.15% of the population) prior to March 14, 1995 (Tables 1 & 2, pp. 41 & 47-49). Responses received after that date are not included in the data analysis, but will be of considerable value in subsequent reporting of this

research. Twenty-six respondents also forwarded copies of official state policy guidelines, regulations, and other documentation associated with the use of telecommunications for distance education. Precisely half of the respondents (22 of 44) indicated their respective states currently have policies designed specifically to govern the use of telecommunications for distance learning. All respondents reported that telecommunications technology is currently in use for delivery of postsecondary education. Half of the respondents reported that authority and responsibility for developing, implementing, and coordinating such policy is placed with the state coordinating board for public institutions of higher education. An additional 34 percent reported that the coordinating board shared such responsibility with another office or agency.

The most frequently cited advantages of using telecommunications for distance education were access, resource sharing, cost effectiveness, enhanced quality, and expansion of service areas. Respondents perceived that existing policies both enhanced and restricted these advantages (Table 3, p. 53). Disadvantages of using telecommunications technology for distance learning most frequently listed by the respondents were associated costs, loss of factors associated with the traditional on-campus collegiate experience, difficulty in exercising control over quality, faculty preparedness, reduced access to library resources, and turf issues.

When asked to identify the important issues, opportunities, and shortcomings not yet addressed by state policies, respondents most frequently cited resource sharing (including multi-state sharing), funding, planning, and infrastructure. Six of the respondents (15.38%) expressed the belief that none of the important issues is addressed by existing policies.

More than 81 percent of the respondents indicated there are activities currently underway in their respective states to deal with the issues referred to above. These include engagement of the coordinating board, special task forces, and/or multi-agency groups in assessment and planning activities associated with telecommunications infrastructure and/or distance education opportunities.

The data show that 80.48 percent of the states do not currently have reciprocal, cooperative, and/or consortial agreements with other states regarding common regulations, standards, and criteria.

When asked to consider what impact technologies which do not allow for real-time interaction (such as CD-ROM and other computer-based technology) would have on delivery of postsecondary education at a distance, more than one-third of the respondents (37.5%) expressed the opinion that use of these emerging technologies will increase; fewer respondents (27.02%) believe that unique policies will be needed to govern their use.

The data suggest that a wide majority of the states (80.95%) plan to develop a new system or improve an existing system for delivery of postsecondary education via telecommunications. The factor which has contributed most to lack of (or limited) participation to date, according to two thirds of the respondents, is funding.

The most frequently cited factors addressed in existing policies are quality, access, conflict resolution, funding and costs, student assessment, communication with students, priorities (by program type) for access to technology, faculty development, and development of the technology for educational use (Table 5, p. 57).

Analysis

Sources of innovation. Fullan and Stiegelbauer (1991) list the technology itself among sources of pressure for educational change. Data from this study reveal broad acceptance of, if not confidence in, the use of telecommunications technology for delivery of postsecondary education. All respondents reported the technology is currently used for this purpose. A more mixed view is demonstrated in reactions to and expectations of CD-ROM and other computer-based technologies which do not allow for interaction between the teacher and learner.

Fullan and Stiegelbauer (1991) also list government among the sources of innovation. A primary role of state governing boards for higher education is to balance political input with the mission of educational institutions (Floyd, 1982; Honig, 1984). Data from this study show the large majority of the governing boards either have or share responsibility and authority for developing, implementing, and coordinating policies which impact the use of telecommunications in higher education. Data presented in Tables 3, 4, and 6 (pp. 53, 55, & 60) support the notion that coordinating boards place considerable importance on first-order change (access, resource sharing, cost effectiveness, enhanced quality, and faculty-student interaction). Second order changes, which may be more influenced by the technology, are not as prominent in the collected data.

The meaning of change. Fullan and Stiegelbauer (1991) stress the outcome factor as an indicator of meaning in their model for change. Data from this study show that coordinating boards, when considering the use of telecommunications for distance education, tend to focus on outcomes associated with the needs of faculty, students, institutions, and the

community at large. Perceived advantages of the technology reported in questionnaire responses were most often expressed in terms of outcomes (Table 3, p. 53). Likewise, the content analysis of official documents provided by the respondents provides additional data in support of the notion that existing policy is intended to address outcomes based on perceived needs of faculty, students, institutions, and educational systems (Table 6, p.60).

Factors affecting implementation and continuation. The data suggest that if funding issues can be resolved, use of telecommunications technology for delivery of postsecondary education will come closer to reaching its full potential. Money was the factor cited most often by respondents as a contributor to the lack of or limited statewide use of telecommunications in higher education. Over two thirds of the respondents identified costs or funding as the primary barrier to change. Just over 9 percent of the respondents identified limited vision as a constraint. Just over 4 percent cited a lack of planning as a barrier. No other single factor was identified by more than two respondents.

Fullan and Stiegelbauer (1991) observed that "legislation and many other new policies and programs are sometimes deliberately stated at a general level in order to avoid conflict and promote acceptance and adoption. Such policies often do not indicate how implementation is to be addressed" (p. 70). The official documents provided by respondents in this study are, for the most part, written in general terms and more than 20 percent of them contain language which openly encourages increased interinstitutional cooperation in adapting to changes brought about by the emerging technologies employed in distance learning activities.

Conclusions

Based on the collected data, and taking the scope and limitations of the study into account, it is concluded that: (1) the leadership of state higher education coordinating boards is aware of and keenly interested in expanding the use of telecommunications technology for delivery of postsecondary education; (2) states are planning- and policy-ready to deal with issues associated with telecommunications applications in higher education; (3) states have already made investments in telecommunications technology for distance education applications and plan to invest further in the improvement of systems; (4) coordinating boards are outcome-oriented and strive for shared meaning in educational change; and (5) The New Meaning of Educational Change by Fullan and Stiegelbauer (1991) provides an appropriate framework for understanding the complexity and meaning of change in postsecondary education.

Awareness and Interest

The leadership of state higher education coordinating boards is aware of and keenly interested in expanding the use of telecommunications technology for delivery of postsecondary education. Response data (Table 2, pp. 47-49) demonstrate that more than 90 percent of those contacted were able to respond to the questionnaire or delegate the responsibility to another knowledgeable person who could complete and return the document in time to participate in the study. Of those indicating an interest in updates of baseline data generated by this study, the majority (73.8%) reported that updates would be valuable every 3 years. Over 19 percent indicated updates

would be useful more frequently. Only one respondent indicated there was no need for additional information on this topic.

Planning and Policy Development

States are planning- and policy-ready to deal with issues associated with telecommunications applications in higher education. Half of the states (22 of 44 respondents) have already implemented policies designed specifically to govern the use of telecommunications for distance learning. The majority (84.09%) of the state coordinating boards reported that they either have or share responsibility for developing, implementing, and coordinating policies which impact the use of telecommunications for delivering postsecondary education. At the time of this study, the majority of states (81.01%) reported they were engaged in some proactive assessment and/or planning process related to use of telecommunications for delivery of postsecondary education.

Investments in Technology

States have already made investments in telecommunications technology for distance education applications and plan to invest further in the improvement of systems. All respondents reported that the technology is currently in use for higher education within the state. The majority of respondents (80.95%) reported that plans are underway to develop a new system or to improve an existing system for delivery of postsecondary education via telecommunications.

Shared Meaning of Change

Coordinating boards are outcome-oriented and strive for shared meaning in educational change. Data from both the questionnaire and the official policy statements analyzed as part of the study show that coordinating boards place considerable emphasis on outcomes related to goals and aspirations of students, faculty, institutions, and communities (Tables 3, 4, 5, & 6, pp. 53, 55, 57, & 60). The leadership of the state coordinating boards for higher education perceives the major advantages of using telecommunications technology for distance learning to be: access, resource-sharing, cost effectiveness, enhanced quality of educational programs, expansion of the service area of a given institution or system, reduced travel, and convenience (Table 3, p. 53).

An input, costs associated with purchase and maintenance of the technology, is perceived as a major disadvantage of using the technology in higher education. Otherwise, when reporting disadvantages, respondents placed emphasis on outputs which reflect shared meaning: loss of the social and interpersonal aspects of traditional on-campus collegiate experiences, difficulty in maintaining control over quality of instruction, faculty preparedness, reduced access to libraries and other academic support services, and competition between campuses (Table 4, p. 55). Existing policies are also outcome-based (Table 6, p. 60) and focus on change of both the first order (improving effectiveness and efficiency of current activity) and second order (altering fundamental goals, structures, and roles).

Conceptual Framework

Finally, it is concluded that The New Meaning of Educational Change by Fullan and Stiegelbauer (1991) provides an appropriate framework for understanding the complexity and meaning of change in postsecondary education. To date, these authors have restricted their studies to educational change in the elementary and secondary schools. Through design and analysis based on The New Meaning of Educational Change, this study has demonstrated that the theoretical framework is equally applicable to the complexities of educational change in postsecondary education.

Recommendations

The data collected in this study demonstrate a high level of interest in and a keen understanding of distance education among the leadership of state higher education coordinating boards. There are implications for additional research, for improving current practice, and for additional application of change theory.

Research

Additional studies need to be designed to assess, on a state-by-state basis, the level of interest and commitment to use of telecommunications for delivery of postsecondary education from the perspective of educational leaders at the colleges and universities. There is a need to further examine the Verduin and Clark (1991) assertion that a principal reason for the limited availability of distance education "is American educators' lack of awareness about just what distant education is, how it operates, and what

it can do for adult learning" (p. xi). Data from this study do not support this assertion as it applies to the leadership of state coordinating boards.

If we are to better understand shared meaning of educational change, studies similar to this one need to be administered to describe the current awareness of and commitment to distance education from the perspectives of Chief Academic Officers at the host of postsecondary institutions within a state's boundaries. Are the distance education issues and opportunities identified by the SHEEO membership equally important to the leadership of the individual two- and four-year public colleges and universities?

To better understand the complexity and meaning of potential educational changes associated with application of telecommunications technology for distance education, similar data are needed regarding the attitudes, beliefs, and activities of administrators within institutions–at the department head or department chair level as well as the level of the individual faculty within the departments.

This study has demonstrated that Fullan and Stiegelbauer (1991) provide a useful framework for researching the former. A valuable approach to understanding the latter might be a study of the use of telecommunications technology for distance education within the framework of Allan Tucker's theory of departmental development as presented in Chairing the Academic Department (1984). Is there a correlation between a department's maturity and its willingness to implement change?

Additionally, more research needs to be done to describe what educators really mean when they refer to "quality" of educational materials, courses, and programs. Is there truly a common understanding or

interpretation of the term as used by students, faculty, administrators, legislators, and the leadership of coordinating boards? Is quality more often associated with what's offered at my campus as compared with another campus? Complexity and quality (practicality) are key characteristics of change, and ambitious change should always be combined with quality (Fullan & Stiegelbauer, 1991). There is no doubt that the topic of this study is complex. Enhanced quality was the fourth most often cited advantage of using telecommunications for distance education. The difficulty of controlling quality was the third most often cited disadvantage; and the concept of quality was the most frequently cited factor addressed in the existing policies analyzed as part of this study.

Practice

Because costs and funding are so prominent in the reporting of constraints, it is recommended that leadership of the coordinating boards increase pressure to bring legislatures and institutions of higher education together to explore perceptions and reach some shared meaning in terms of the mission of public education at the postsecondary level. This study has demonstrated shared vision among the states; a concerted effort needs to be made to nurture shared vision within state boundaries and to reach consensus regarding the best distribution of state resources to achieve agreed upon goals.

Data from this study indicate an extremely limited participation in multi-state consortial agreements associated with distance education. Participation in educational consortia should be encouraged to support the notion that efficiencies can be gained by using telecommunications for interstate delivery of quality postsecondary education. The effort of the

Western Cooperative for Educational Communications (1995) to balance quality and access by reducing policy barriers may offer solutions for states in other regions of the country.

Theory

As mentioned above, The New Meaning of Educational Change by Fullan and Stiegelbauer (1991) limits discussion of case studies to those describing educational change in the elementary and secondary schools. The design and execution of this study has demonstrated that the Fullan and Stiegelbauer framework is equally valuable for understanding the complexity and meaning of change in the application of communications technology for delivery of postsecondary education.

The framework should also prove valuable for additional higher education research in a variety of settings. For example, Fullan and Stiegelbauer (1991) described "a combination of elements that we usually think of as mutually exclusive or as not operating in the manner that they do (p. 91):" (1) active initiation and participation, (2) pressure and support, (3) changes in behavior and beliefs, and (4) the overriding problem of ownership. The influence of all four of these factors is evident in the existing policies examined as part of this study and in the responses offered by the participants. Opportunities exist to more carefully examine these factors as they influence other aspects of change in postsecondary education.

Additional higher education research could examine the three themes which Fullan and Stiegelbauer (1991) identify with subjective change: (1) forces keeping things as they are, (2) bitter resentment toward change imposed from outside, and (3) a "strong tendency for people to

adjust to the 'near occasion' of change by changing as little as possible–either assimilating or abandoning changes that they were initially willing to try, or fighting or ignoring imposed change" (pp. 35-36).

Commentary

Data from this study indicate that the leadership of higher education coordinating boards are most concerned about (1) identifying resources for funding telecommunications technology and (2) maintaining the quality of educational programs delivered through these media. It may be that the funding issues could easily be resolved if legislators, educators, and communities can agree on definitions of "quality" as the term applies to the mission of colleges and universities.

Funding

An associate recently observed that costs associated with the purchase, replacement, upgrading, and maintenance of communications and computer technology make the cost of the American automobile a bargain by comparison. Respondents participating in this study, when asked about the disadvantages of using telecommunications for distance education, most frequently cited costs and/or how funding can be obtained to meet those costs. Hezel (1991) has clearly demonstrated that state budget deficits and revenue shortages often are given as the reasons for delay in technology implementation and has given considerable attention to the costs and benefits of investing in the technology.

There is little evidence or hope that "new" money will be found. Funding issues are grounded in perceptions of priority needs. The fact is, if I *really want* that new car and all the extras that I perceive will add to my

personal comfort and sense of status, I will locate the funds. I will make a careful assessment of income and outgo and probably give something up in the process; but I *will* have that car. That's the American way!

Fullan and Stiegelbauer (1991) caution: "The adage 'Where there's a will there's a way' is not always an apt one for the planning of educational change. There is an abundance of wills, but they are in the way rather than pointing the way" (p. 95). So, if states and institutions of higher education *really want* to provide each citizen greater access to information and education, leaders throughout the higher education community need to participate more aggressively in both the policy-making and budget-setting arenas and reach consensus regarding which priorities need to be funded.

Note that cost effectiveness was cited among the advantages of using telecommunications for distance education by 29.8 percent of the respondents participating in this study. This perception needs to be more widely communicated among other leaders in the higher education community and in the state legislatures if the funding issue is to be resolved.

Another critical factor contributing to the perception that costs associated with telecommunications are prohibitive may be that too few of the members of the legislatures and not enough of the educational leadership personally use the technology for their own personal and/or professional development. Educators at all levels must seek and take advantage of opportunities to develop educational materials that the leadership will want to access for themselves. It is not enough to have a customer on the lot; the test drive sells the car. It is too easy to expect our children to learn as we learned and overlook the fact that the clutch has been automated.

Quality

In a discussion of the use of technology-mediated learning, Carol A. Twigg (1995) observed:

> Ever since higher education became a mass phenomenon, colleges and universities have made significant use of cost control measures. The 200-chair lecture hall, graduate student teaching assistants, adjunct faculty, and the like exist for purposes of controlling costs rather than improving educational quality. Because they tend to mirror their on-campus counterparts, distance learning applications that extend the classroom via telecommunications do a reasonable job of controlling costs. But while decades of educational research have proven that these approaches are "as good as" the face-to-face classroom, they fail to improve on the inherent limitations of the lecture method, thereby sacrificing quality. Clearly it is not difficult to meet one of higher education's goals of increased access, controlled costs, or improved quality by itself. The trick is to find a way to achieve all three at once. (p. 13)

The trick, in my opinion, can be accomplished if we recognize the coexistence and interrelationship of first-order change (improving efficiency and effectiveness of existing practice) and second-order changes (those which alter organizational structure, goals, etc.). The two orders are usually viewed as distinct from one another, so it is easy to assume something must be accomplished in one arena before we can begin to move in another. For example, some faculty may resist using technological innovations in the classroom because there is no assurance that the activity will be legitimized by the promotion and tenure process. It *is* possible to

employ new techniques while, at the same time, working toward more fundamental change in our institutional policies and procedures.

Among the recommendations discussed previously, is one that additional data is needed regarding the attitudes, beliefs, and activities of educational leaders at the college and university level. Another recommendation stated above is to better determine what various individuals and groups mean when they refer to "quality" in higher education. Fullan and Stiegelbauer (1991) equate quality with practicality. Many respondents participating in this study equated quality with levels of interpersonal communication among students and/or between student and instructor. Some referred to quality in terms of access; still others offered only vague descriptions, if any, in responses related to quality issues. There is little room for vague definitions if institutions are to cooperate in implementing ambitious innovations such as those proposed by advocates for using telecommunications technology for delivery of postsecondary education.

Shared Meaning

Fullan and Stiegelbauer (1991) highlight the importance of shared meaning as related to outcomes. I contend that shared meaning needs to be accomplished much earlier in the process if the various participants are to have meaningful opportunities to identify a sense of ownership in the change process. Educational change at the postsecondary level involves state governments, coordinating boards, college and university administration, faculty, students, and local industries. If there is no shared vision at the initiation phase, there is less likelihood that shared

meaning will surface during implementation to contribute to outcomes of value.

Lack of attention to these factors can lead to failure. Using the educational reforms of the 1970s as an example, Fullan and Stiegelbauer (1991) commented:

> The reforms failed because of faulty and overly abstract theories not related or relatable to practice, limited or no contact with an understanding of the school, ignorance of the lessons of experiences of the reformers in the 1920s and 1930s, and above all the failure to consider explicitly the relationship between the nature of the proposed innovations and the purposes of schools. Innovations became ends in themselves as the reformers lost sight of the central questions of the purpose of change. (p. 23)

Perhaps it is appropriate that innovations in delivery of postsecondary education have been test driven in the not-for-credit marketplace to date. Extension staff, community college faculty, and other non-traditional participants have been less affected by outdated promotion and tenure policies and other institutional barriers to unconventional practice. However, we have reached the place in American culture where the cellular phone is as common as the rod and reel in the fishing stream. High school students have beepers on their belts; they smuggle their computer games into the study halls where comic books feared to tread in days gone by. For many, college does not make sense after high school.

The non-traditional student is establishing the tradition for the twenty-first Century. Older students, single parents, working mothers and fathers, the homebound are seeking access to information and education. Most states are ready to meet the challenge. Some have written new

policies to encourage exploration of cyberspace; others have taken the position that a policy-free environment is more conducive to change. All appear to recognize that the newer communications and computer technologies have permeated every aspect of American life and need to be more efficiently used for education at all levels.

Those who fear the technology lose sight of the fact that those of us who have telephones still write letters. Indoor plumbing has not caused our social fabric to decay. Those who seek access to information and education on the Internet will probably not shun opportunities to also go to the movies, attend live performances, or enroll in a class on campus. Acceptance of any medium has yet to render other media useless or obsolete.

Focus needs to stay on some *shared* vision of the mission of higher education within the state, among the states, and within the context of a global marketplace. If we can share a common vision of what needs to change, we can make effective and efficient use of telecommunications technology for both delivery of and access to the best information available. Too much focus on the technology itself may cause us to lose sight of our mission.

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APPENDIXES

APPENDIX A

QUESTIONNAIRE

Assessing Long Distance Learning via Telecommunications

A 50-State Assessment of Policies Governing Distance Learning in Postsecondary Educational Institutions

The following identifying information is for follow-up purposes only. It will be removed from the questionnaire upon receipt by the researcher to help assure that no link exists between the research and the respondent.

Name: _____ Title: _____

State: _____ Phone: _____

Best time to reach you: _____ Fax: _____

How often would you like to receive updates of the baseline data generated by this study? Every 3 Years ___ Every 5 Years ____ Other ____ (specify)

Definitions: This survey assesses the current status of state policies which relate to distance learning via telecommunications. For the purposes of this assessment, "distance learning" and "distance education" are synonymous and are defined as postsecondary learning experiences in which instructor and learners are at a distance from one another during the teaching process. "Telecommunications" refers to the realm of television, telephone, and other electronic technologies including two-way, talk-back television and one-way televised instruction combined with two-way telephone communications to allow for questions and discussion.

Instructions: Please read each item carefully and respond according to the activities and experiences in your state. Do not spend a lot of time with any one question. Write your response in the space provided following each question. Feel free to use the back of pages to continue a response and/or attach additional pages if necessary. **Using the enclosed Federal Express mailer, please forward the completed questionnaire and documents by February 10, 1995.**

To help clarify the policies in your state, please send a copy of the applicable laws, regulations, agreements and policy statements that govern the use of telecommunications for distance learning.

Address questions to: Professor Kevin G. Hayes
Distance Education Coordinator
Oklahoma State University
103 Public Information Building
Stillwater, OK 74078-0222

Phone: (405) 744-7048
FAX: (405) 744-5739

Assessing Long Distance Learning via Telecommunications—page 2

1. Does your state have policies designed specifically to govern the use of telecommunications for distance learning?

   Yes _____ No _____

   (If "yes," please forward copies of relevant policies with the completed questionnaire.)

2. Does the coordinating board for public institutions of higher education in your state have authority and responsibility for developing, implementing, and coordinating policies which impact the use of telecommunications for delivering postsecondary education?

   Yes _____ No _____ Shared responsibility _____

3. If your response to question 2 is "No" or "Shared responsibility," please complete the following:

   _____ has ___ shares___ responsibility
   (Office or Agency)

   Contact:_____
   (Individual's name and title)

   _____
   Street Address City and State Zip Code

   Telephone: (___)_____ Fax: (___)_____

4. Is telecommunication technology used in your state for delivery of postsecondary education?

   Yes _____ No _____

If you answered "No" to question 4, proceed to question 16.

In responding to questions 5 through 10, please refer to and/or highlight specific sections of the copy of your state's policy which you are forwarding with this questionnaire.

5. In your opinion, what are the major advantages of using telecommunications for distance learning?

6. Which of the advantages cited above have been enhanced by policies or procedural guidelines established in your state?

7. Which of the advantages cited above have been restricted or overlooked by policies or procedural guidelines established in your state?

8. In your opinion, what are the major disadvantages of using telecommunications for distance learning?

9. Which of these disadvantages have been addressed through policies or procedural guidelines established in your state?

10. In your opinion, do the policies or guidelines cited in your response to question 9 respond adequately to the issues they are intended to address?

    Yes _____ No _____ Please elaborate.

11. What important issues, opportunities, and/or shortcomings have not yet been dealt with in your state's policies?

12. Are there activities underway to address the issues cited in your response to question 11? If you respond in the affirmative, please elaborate.

13. Does your state have reciprocal, cooperative, and/or consortial agreements with other states regarding common regulations, standards, and criteria?

    Yes _____ No _____ (If so, please attach copies.)

14. In your opinion, what impact will technologies which do not allow for immediate interaction between teacher and learner (such as CD-ROM and servers on the internet) have on delivery of postsecondary education?

15. Will unique policies need to be developed to govern the use of the technologies referred to in question 14? Please elaborate.

16. Does your state plan to develop a new system or improve an existing system for delivery of postsecondary education via telecommunications?

    Yes _____ No ____ If "Yes," please elaborate.

17. What are the major issues and/or concerns which have most contributed to your state's lack of or limited participation in distance learning activities to date?

Thank you for the time you have taken to respond.
A summary of responses will be sent to you upon completion of the study.

APPENDIX B

CORRESPONDENCE

Oklahoma State University

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Office of Academic Programs
136 Agricultural Hall
Stillwater, Oklahoma 74078-0500
405-744-5395
FAX 405-744-5339

January 16, 1995

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«City», «State» «PostalCode»

Re: Policies Governing Distance Learning in Postsecondary Education

Dear «Title» «LastName»:

Those of us who are using, or planning to use, communications technologies to deliver postsecondary instruction have a real need for a single resource which documents the current status of relevant state policies throughout the United States. This letter is to solicit your help in compiling the information which can help all of us make better use of precious state resources, avoid costly duplication, and help assure the quality of postsecondary instruction delivered to remote sites.

I am asking that you, along with representatives of higher education coordinating boards in all 50 states and the District of Columbia, respond to the enclosed within the next few days. With your response, please forward copies of relevant laws, regulations, and/or policy statements that govern the use of communications technology for distance learning in your state.

I have included a Federal Express packet to facilitate the return of the questionnaire and related documents at our expense.

While participation in this study is voluntary, I am hoping that you or another fully knowledgeable person in your office will take the time to contribute to this important assessment. In return, I will send you a summary of responses.

If you have questions, please contact me at (405) 744-7048.

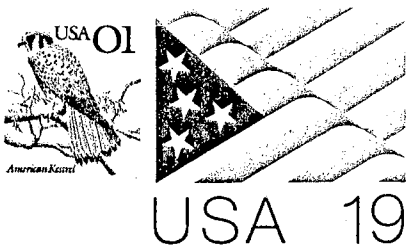
Respectfully,

Kevin G. Hayes
Distance Education Coordinator

enclosures

POSTCARD
Mailed to nonrespondents on January 25, 1995

Kevin G. Hayes
103 PIO Building
Oklahoma State University
Stillwater, OK 74078-0222



Mailing Surface

Distance Learning Telecommunications Survey

REMINDER

Please complete the questionnaire sent to you on January 16, 1995 as soon as possible and return it in the FedEx PAK we provided. A response from each state remains critical if this assesment is to be of value to everyone. If our communications have crossed in the mail, please ignore this reminder. Thanks for your help.

QUESTIONS?

Contact Professor Kevin G. Hayes, Oklahoma State University
Phone: (405) 744-7048 FAX: (405) 744-5739

Message Surface

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION

State Capitol Complex
500 Education Building
Oklahoma City, Oklahoma
73105-4500

February 1, 1995

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«City», «State» «PostalCode»

Re: Questionnaire to Assess Distance Education Policies

Dear «Title» «LastName»:

A few days ago, I received a questionnaire from Kevin G. Hayes, Distance Education Coordinator for Oklahoma State's Division of Agricultural Sciences and Natural Resources. His cover letter suggested that your office would also receive his letter, questionnaire, and return envelope.

I am writing to encourage your participation in this assessment of state policies governing delivery of postsecondary education. It will take more than a minute or two for most of us to respond to the questionnaire, but the summary offered to each respondent can be an invaluable resource as we implement policies to provide access to postsecondary education for all citizens, especially to those at remote locations.

The value of such an assessment increases with the response rate, so each of us can contribute significantly to the value of this summary and subsequent analysis of existing state policies. That's why I hope you have already taken time to respond.

However, if you haven't responded yet, I urge you (or another appropriate individual in your office) to give the questionnaire your attention today. Input from your state will be most helpful in achieving the purpose of this assessment.

Any questions should be directed to Professor Hayes at (405) 744-7048.

Best personal regards.

Sincerely,

Hans Brisch
Chancellor

Oklahoma State University

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Office of Academic Programs
136 Agricultural Hall
Stillwater, Oklahoma 74078-0500
405-744-5395
FAX 405-744-5339

February 10, 1995

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«City», «State» «PostalCode»

Re: Questionnaire to Assess Distance Education Policies

Dear «Title» «LastName»:

On January 16. 1995, I wrote to ask for your help in compiling information regarding the current status of policies relevant to distance learning via telecommunications.

Representatives of higher education coordinating boards in more than thirty states have completed and returned the questionnaire, but we still have not received a response from your office.

While participation in this study is voluntary, I am hoping that you, or another fully knowledgeable person in your office, will forward a response this week. I am enclosing another copy of the questionnaire and a self-addressed, postage-paid envelope for your convenience.

If you still have the FedEx PAK and airbill sent with my initial correspondence, please use that opportunity to expedite return of the material to me at no cost to your office.

Each response adds to the value of this data, so information from your state is significant. Each respondent will receive a summary of responses which we sincerely hope will be of genuine value to your office.

Respectfully,

Kevin G. Hayes
Distance Education Coordinator

enclosures

APPENDIX C

TELEPHONE SURVEY INSTRUMENT

TELEPHONE SURVEY INSTRUMENT

Good morning (afternoon). This is Kevin Hayes calling from Oklahoma State University to ask about a questionnaire I sent you in January. I am wondering if you have returned the questionnaire or if someone in your office is still working on it?

Already returned ____

I've not received it yet, did you use the FedEx envelope for its return?
Yes ____ Would you be kind enough to ask FedEx to track it for me?
No ____ Did you by chance save a copy? **Yes** ____ **No** ____
(If yes, arrange to have copy sent by FAX, FedEx, or U.S. Mail)

Still working on it ____

How soon will it be ready to mail? _____

Will not be completing it ____

I can accept and fully appreciate that decision. As an alternative, would you be willing to spend a few minutes with me on the phone–either now or at a more convenient time? The benefit of your input will really help me gain a more global perspective and can go a long way in adding to the value of this study. **Now** ___ **Later (date & time):** _____

Not interested in participating ____ Document as much as possible regarding the reasons for nonresponse, then close with courtesy and respect.

Well, I am grateful for the time you've taken with me this morning (afternoon) and just have one more brief question: Would you like to receive a copy of the summary data? I'll gladly send it to you at no cost.
(WAIT FOR RESPONSE: Yes _____ No _____)

Thanks again, Dr. _____. Have a good day.
First, let me ask if your office would like to receive updates of the baseline data generated by this study every 3 years, every 5 years, or at some other interval?

Every 3 Years ____ Every 5 Years ____ Other ____ (specify)

1. **Does your state have policies designed specifically to govern the use of telecommunications for distance learning?**

   Yes_____ **Would you be willing to send me a copy of relevant documents in the FedEx PAK I sent you in January?** (Yes ____ No _____ Alternate delivery ____)

   No _____

2. **Does your office have authority and responsibility for developing, implementing, and coordinating policies which impact the use of telecommunications for delivering postsecondary education?**

   Yes _____ No _____ Shared responsibility _____

   If shared, clarify with whom responsibility is shared, then ask:

3. **Can you provide me with the name and address of a contact at that agency?**

   Name:

   Mailing Address:

   Phone: FAX:

4. **Is telecommunication technology currently used in your state for delivery of postsecondary education?**

   Yes _____ No _____ (proceed to question 16)

5. **In your opinion, what are the major advantages of using telecommunications for distance learning?**

Access _____ Resource Sharing _____ Cost-effectiveness _____

Reduced Travel _____ Enhanced Content _____ Other _____

6. **Which of these advantages have been enhanced by policies or procedural guidelines established in your state?**

Access ____ Collaboration/Resource Sharing ____ Cost-effectiveness ____

Reduced Travel _____ Enhanced Content _____ Other_____

7. **Which of the advantages you mentioned have been restricted or overlooked by policies or procedural guidelines established in your state?**

Access_____ Resource Sharing _____ Cost-effectiveness _____

Reduced Travel_____ Enhanced Content_____ Other_____

8. **In your opinion, what are the major disadvantages of using telecommunications for distance learning?**

Costs _____ Loss of Collegiate Experience _____ Faculty Development ____

Quality Control & Assessment _____ Competition (Turf) Issues _____

Reduced Access to campus resources ____ Other _____

9. **Which of these disadvantages have been addressed through policies or procedural guidelines established in your state?**

Costs ____ Loss of Collegiate Experience _____ Faculty Development _____

Quality Control & Assessment_____ Competition (Turf) Issues _____

Reduced Access to campus resources _____ Other _____

10. **In your opinion, do these policies or guidelines respond adequately to the issues they are intended to address?** Yes _____ No _____

Explanation:

11. What important issues, opportunities, and/or shortcomings have not yet been dealt with in your state's policies?

Infrastructure _____ Importing Courses from Out-of-state _____

Costs or Funding Issues _____ Planning _____

Loss of Collegiate Experience _____ Access for All Areas of the State _____

Faculty Development _____ Collaboration/Resource Sharing _____

Quality Control & Assessment _____ Competition (Turf) Issues _____

Other_____

12. Are there activities underway to address the issues cited in your response to question 11? Yes _____ No _____

Formation of Task Force or Committee _____ Planning in Process _____

Investments in Technology/Networks _____ Other _____

13. Does your state have reciprocal, cooperative, and/or consortial agreements with other states regarding common regulations, standards, and criteria?

Yes _____ **Would you send me a copy?** (Make arrangements.)

No _____

14. In your opinion, what impact will technologies which do not allow for immediate interaction between teacher and learner (such as CD-ROM and servers on the internet) have on delivery of postsecondary education?

Impact and importance will increase _____ Will expand access _____

Minimal Impact _____ Will require careful attention to design _____

Less impact than other technologies _____ Other _____

15. Will unique policies need to be developed to govern the use of these technologies?

Yes _____ (Please elaborate.) No _____

16. Does your state plan to develop a new system or improve an existing system for delivery of postsecondary education via telecommunications?

Yes _____ **(Please elaborate.)** No ____

Greater investments in the technology/networks (hardware/software) _____

Currently making an assessment or developing a plan _____

Improving statewide access (improve equity among areas of the state) _____

Other_____

17. What major issues or concerns which have most contributed to your state's limited (lack of) participation in distance learning activities to date?

Considers the state active or already a leader; question doesn't apply. _____

Funding _____ Limited Vision _____ Differing Vision _____ Turf _____

Lack of Planning _____ Faculty Reluctance _____ Lack of Leadership ____

Other priorities _____ Other_____

Closing Comment

I am extremely grateful for the time you've taken with me this morning (afternoon). I'll be sending you a copy of the summary data fairly soon. Before I hang up, is there anything else you'd like to discuss or ask about while I'm on the line?

Thanks again, Dr. _____ for your time. Your input really helps give me a more global perspective and it will add to the usefulness of the data for other states as well. **Have a good day!**

VITA 2

Kevin G. Hayes

Candidate for the Degree of

Doctor of Education

Thesis: DISTANCE LEARNING POLICIES IN POSTSECONDARY EDUCATION: A STATE-BY-STATE ASSESSMENT

Major Field: Higher Education

Biographical:

Personal Data: Born in Jamestown, New York on May 14, 1941, the son of Francis Joseph and Mary Driscoll Hayes.

Education: Graduated from Jamestown (NY) High School in August 1959; received the Associate in Arts Degree in the Humanities from Jamestown Community College in June 1966; the Bachelor of Arts Degree in English from Allegheny College in June 1968; the Master of Arts Degree with a major in Journalism and a minor in English from The Pennsylvania State University in March 1974. Completed the requirements for the Doctor of Education Degree at Oklahoma State University in May 1995.

Experience: Employed as a commercial broadcaster with the James Broadcasting Company (Goldman Group) in both Jamestown and Salamanca, New York, 1959 to 1963 and 1965 to 1966; broadcast specialist and military policeman with the U.S. Army, 1963 to 1965; Program Director of WMGW and WMGW-FM in Meadville, Pennsylvania from 1966 to 1969; various positions at The Pennsylvania State University from 1969 to 1988, including one year as interim head of the Department of Agricultural Communications and three years as Chief-of-Party for a USAID-funded Penn State project in the Kingdom of Swaziland in southern Africa; head of the Department of Agricultural Communications, Oklahoma State University, 1988 to 1994; communications program leader and distance education coordinator for the Division of Agricultural Sciences and Natural Resources, Oklahoma State University, 1994 to present.

Memberships: Epsilon Sigma Phi, Kappa Tau Alpha, Phi Kappa Phi, Council for The Advancement and Support of Education, Agricultural Communicators in Education, Southern Association of Agricultural Scientists, Oklahoma Distance Learning Association, and U.S. Distance Learning Association.

Former Memberships: International Platform Association, Extension Professors Association of The Pennsylvania State University, College and University Public Relations Association of Pennsylvania, and Pennsylvania Broadcasters Association.

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 01-05-95 **IRB#:** ED-95-036

Proposal Title: ASSESSING LONG DISTANCE LEARNING VIA TELECOMMUNICATIONS - A 50-STATE ASSESSMENT OF POLICIES

Principal Investigator(s): Adrienne E. Hyle, Kevin G. Hayes

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Revisions received and approved.

Signature: _____ Date: January 12, 1995
Chair of Institutional Review Board