EDITORIAL

The Second American Symposium on Research in Distance Education was held at The Pennsylvania State University in May of 1991. The general purpose of the Symposium was to review developments in research and study in the field of distance education, to analyze research needs, and to plan future research and scholarly work. Educational researchers and practitioners shared their knowledge of the field in regard to methodological difficulties, populations, institutional resources, funding, and other practical matters that influence the development of research. Additionally, they generated a list of priority topics—together with suggestions for strategies for researching the topics—to stimulate and encourage research on the part of students, scholars, and practitioners. The central feature of the program was small-group discussion of topics presented by participants in the papers they prepared for the Symposium. The four broad themes discussed in these groups were 1) learning and characteristics of learners; 2) course design and communication; 3) instruction and learner support; and 4) theory, policy, and management. In the two years following the Symposium, The American Center for the Study of Distance Education compiled and edited a selection of the symposium papers into a series of three monographs published as part of the ACSDE Research Monograph Series. This issue of DEOSNEWS presents abstracts of the papers in the three Symposium monographs. Further information about the Symposium papers or about other publications of The American Center for the Study of Distance Education can be obtained by contacting Margaret Koble at the above mailing address, telephone number, or e-mail address.

DISTANCE EDUCATION SYMPOSIUM: SELECTED PAPERS. PART 1. ACSDE RESEARCH MONOGRAPH NUMBER 4.

BEAUDOIN, M. Researching practice and practicing research: A critique of distance education research and writing.

To date, most claims of effectiveness or prescriptions for good practice have been based on anecdotal data. The effect of this lack of research on key distance education issues is a
perpetuation in the minds of conventional educators of skepticism, myths, and doubts about the credibility of out-of-classroom education. Systematic, evaluative distance education research data is needed to document and demonstrate practice outcomes. Advancing distance education as a field demands changing policies to meet changing needs; such change necessitates a research base which combines both persuasive evidence of distance education successes with analysis and understanding of program failures. Numerous fundamental issues which have yet to be adequately investigated include assessing the need for and providing a framework for interaction; the potential for development of affective skills; assessment of resources and determination of learner needs; distance education as a means of social control or as a vehicle for liberation; and equality of educational access. Additional systematic research is necessary to address both theoretical and practical issues in distance education. Only in this way can distance educators make others more aware and accepting of the philosophy, methods, and effectiveness of distance teaching and learning. (pp. 1-8)

DILLON, C. and D. BLANCHARD. Education for each: Learner driven distance education.

In a search of the literature on learner support in distance education, four categories emerged, each of which served as a point of further analysis. 107 articles were analyzed in terms of research methodology, institutional context, type of learner support, and learner characteristics. The mixed nature of reported research findings suggests that the type of necessary support varies according to interrelationships among the needs of the learner, the requirements of the content, the institutional context, and the selected technology. A model is presented which integrates these factors and provides the basis for practice prescriptions. Recommendations for further research include development of methods to identify students who need support; a focus on social, cultural, economic, and psychological factors contributing to student success; examination of the nature of student interactions; study of the cooperative arrangements among organizations; and the effect on student outcomes and attitude of faculty development. The authors conclude that the different perspectives provided by quantitative and qualitative research methods are necessary to provide information for generalizing and theory building. (pp. 9-33)

GIBSON, C. Changing perceptions of learners and learning at a distance: A review of recent research.

Distance education research in the past few years has evolved from a focus on distance learners as individuals with fixed, unchanging characteristics to a concern for the changeable nature of learner characteristics. Dynamic affective variables are beginning to replace static demographic variables as predictors of student achievement, satisfaction, and persistence. Increased attention also is being given to the influence of change in learners’ environments or circumstances (work environment, study circumstances, etc.) on persistence. Gibson argues that multivariate, multifactorial research designs are necessary to
adequately study the dynamic, complex distance learner in his or her learning environment. Additionally, qualitative data should be collected to aid in interpreting findings and generating theory. She suggests that questions which serve as a focus for research should emphasize "head learning" rather than "head counting," and psychological access to knowledge rather than physical access to content. Asking the right questions is a necessary first step to advancing learning at a distance. (pp. 34-42)

WOUDSTRA, A. and S. MURGATROYD. Responding to change: Designing a flexible learning organization for distance education.

To be competitive in today's world, a nation must have strong systems both of initial education and life-long learning. Providing an appropriate education depends on the ability and willingness of educational organizations to change in response to a changing social and economic environment. Organizations, including distance education organizations, can choose to resist change or to accept or welcome it. Those who resist are risking institutional suicide. Those who recognize the need for change can evolve from bureaucratic distance education organizations to more flexible, adaptive learning organizations. The steps involved in this process include 1) realization of the need for change; 2) initiation of major reforms in structure, positions, relationships between customer and provider, etc.; 3) empowerment of personnel to be learning and achievement oriented; 4) provision of a timely flow of data to those who need it to make decisions; and 5) benchmarking and evaluation as starting points for improvement. Organizations which engage in this process of change will probably emerge as "Shamrock organizations": three-part organizations made up of a "core" of highly energized academics, professionals and support staff who carry out the central functions of the organization; the "contractual fringe" of experts hired for specific projects; and a "flexible labor force" of part-time workers such as tutors, counselors, secretaries, etc. Such a structure will allow the flexibility and innovation necessary to respond appropriately to different customer groups or different subject matter. (pp. 43-58)

WRIGHT, S. Research on selected aspects of learner support in distance education programming: A review.

A review of recent research on learner support reveals that "a preponderance of the best studies" have been conducted in institutions outside of the United States. U.S. distance education programs can benefit from application of research findings and replication of research models developed by international distance educators. This research has focused on three aspects of learner support: pre-enrollment activities, tutorial services, and counseling and advising services. Prenrollment support activities include self-assessment, information dissemination, orientation, and advice on study techniques. Increasingly, this early stage of interaction is receiving more sophisticated and comprehensive attention by distance education institutions. Tutorial services can be an important factor in reducing student attrition. Such services in some cases are
provided through face-to-face contact; in other cases, interaction is via print; telephone; video-, audio-, or computer conferencing; or radio. Tutorial interactions that have been shown to increase completion rates and student satisfaction are academic content assistance, personal encouragement, and individualized pacing. Although counseling has been identified as an essential element in promoting student success and course completion, counseling and advising in distance education are generally characterized by "exciting opportunities and depressing realities" due partly to a significant gap between institutional rhetoric and actual practice. Confusion over the distinctions between counseling and advising adds to the problem. Most interactions, generally providing content support and information dissemination, occur via telephone, although more advanced technologies are increasingly being used for this function. Career counseling services are seldom available to distance education students. On the basis of this review of research, several areas of focus for future research are identified: the impact of computer management systems on delivery of student support services; the importance of career counseling for distance education services; student support systems at dual-delivery institutions in the U. S.; and the cost effectiveness of technologies used to provide support to students.(pp.59-70)

DISTANCE EDUCATION SYMPOSIUM: SELECTED PAPERS. PART 2. ACSDE RESEARCH MONOGRAPH NUMBER 8

BILLINGS, D. Learning style preferences and distance education: A review of literature and implications for research.

To provide a framework for a review of literature on the interaction of learning style, delivery system, and outcomes, four categories of learning style elements are presented and discussed. Sociological variables refer to a preference for having others present in the learning environment and also preferences for pacing and structure. Physical variables pertain to modes of information reception through visual, auditory, or kinesthetic channels. Environmental variables such as light, sound, and heat influence the study environment. Finally, psychological or affective variables include such hard-to-define characteristics as motivation, responsibility, and persistence, which are believed to affect the outcomes of distance education courses. In empirical studies (11) reviewed by the author, sociological variables appeared to significantly influence course outcomes. Physical, environmental, and psychological variables apparently had little effect on learning outcomes. Suggestions for further research include further investigation of the significance of sociological variables; investigation of the relationships between learning styles and instructional delivery systems; determination of the extent to which students' knowledge of their style preferences influences outcomes; investigation of the relationships between design of instruction and use of learning style preferences; and continuation of the attempt to define and understand persistence as a learning style variable. (pp. 12-30)

In this paper Burge examines both the "how" and the "what" of research. To discover what learners do, feel, and think, in their own terms, requires researchers to take a holistic view of the world. They must focus on the relationship, intention, and consequence dimensions of experience, dimensions that operate in all facets of distance education. Holistic research implies taking an integrated and wider view of both the what and how of knowing; challenging accepted images and terminology; using transformative models of teaching and learning; becoming reflective as well as active; accepting conceptual complexities; recognizing both the affective and cognitive elements in learning; and focusing on the "connectedness" aspects of education. Burge offers twelve specific strategies that are particularly appropriate for adult learners and suggests six ways in which reflective practitioners can promote the holistic perspective. (pp. 12-30)

Dwyer, F. A paradigm for generating curriculum design oriented research questions in distance education.

To successfully progress through different levels of learning (factual, concept, rules/principles, problem solving), learners need to participate in different levels of information processing. Success at each level requires that conditions both within the learner and the external environment be conducive to the specific type of learning. Instructional consistency/congruency paradigms provide a basic conceptualization of how individual differences may be provided for in the design and development of distance education instructional materials by matching instructional design of the content with the information processing level of the learners. By manipulating the instructional environment, the designer of learning experiences can encourage learners to act on information in ways that will enable them to process information at levels appropriate for the achievement of different types of educational objectives.

Research based on item analysis centered around the instructional consistency/congruency paradigm would allow designers to examine content, determine learners' expected level of learning, and select the most appropriate instructional design strategy. It could also provide a means for identifying specific areas of learning difficulty and provide the rationale for effectively positioning interactive-feedback experiences. Systematic evaluation of feedback strategies would facilitate development of a decision matrix for the design of instructional content which progresses from the factual through the problem solving stage; it would also prescribe for designers feedback experiences appropriate for learners at each level of content competency. (pp. 31-38).

SABA, F. Systems analysis of integrated distance education by discourse.

Learner autonomy is the goal of integrated systems of distance education. Dialogue and structure interact to determine the possible and actual level of autonomy within a particular system;
as dialogue increases, structure decreases and as dialogue decreases, structure increases. Development of a model which accurately reflects the dynamic relationship between dialogue and structure depends on the ability to measure the level and rate of these two variables. A review of theoretical literature suggests that discourse analysis is an effective method of data collection for determining the level and rate of dialogue; because of the inverse relationship between these variables, measurement of dialogue reveals level of structure, as well. Use of this method should be informed by an awareness of its potential for semantic relativism with its accompanying deconstruction of the meaning of instructional transaction. Additional forms of data collection should be used to assure validity and reliability. Ongoing research in this area continues to focus on measurement of dialogue; recent studies examined and clarified categories of speech acts and addressed the question of how screen sharing influences the level of dialogue in a class. Additional research is planned to further clarify the concept of structure; to relate the role of learner to dialogue, structure, and autonomy; and to develop a more complete dynamic model of distance education. (pp. 39-45)

SANTORO, G. Computer empowerment and the ten thousand things.

Students using computer mediated communication (CMC) seldom develop an understanding of how the computer system works or of its potential as an educational tool. Design approaches such as menus or the use of terms initially created to make learning easy allow students to perform routine computer tasks by the use of easy, "magical" commands; however, lack of understanding of the basic or underlying process involved prevents them from developing innovative ways to use the computer to solve their information problems. The issue then becomes: How do educators and system designers provide faculty and students with computer systems that both facilitate easy learning and empower them to go beyond specific tasks to general conceptualization? Academic computing support can exploit available technology for the enhancement of the teaching/learning experience. The goal is to "empower" users by providing both generally applicable and content-specific CMC "tools", both basic systems fundamentals and application fundamentals that become so familiar to student or faculty computer users that they are no longer an impediment but rather an addition to users' cognitive repertoires. The development of these empowering approaches depends on institutional strategies that encourage faculty to effectively incorporate computers in instruction; adoption of standardized terminology; encouragement of an outward perspective among technical support personnel; encouragement of studies on the effectiveness of various design and training approaches; and encouragement of a perspective that views the computer as a tool for lifelong learning.(pp. 46-54)

RITCHIE, H. Interactive, televised instruction: What is its potential for interaction?

Objectives of instructional interaction in televised higher
education courses include more positive attitudes toward instruction, increased comprehension, imitation of traditional face-to-face learning conditions, and promotion of faculty acceptance of distance education. The effectiveness of televised instruction for reaching these goals is not well documented, however. Evidence indicates differences between the types and levels of interaction in face-to-face and televised courses. Televised interaction is characterized by a loss of "band width" in comparison to face-to-face communication. Additionally, electronically mediated interactions are shorter, less friendly, less emotional and less personal. Student interaction constitutes only about five percent of instructional time in face-to-face courses, even less in electronically mediated instruction. To justify the hardware, personnel, and planning necessary to provide supposedly "interactive" televised instruction, distance educators need to develop techniques other than those used in traditional instruction to realize the potential for interaction in this medium. (pp. 55-58)

HEZEL, R. National and state policy in distance education: The issues and research.

Emphasis in distance education on the implementation of technology rather than on program delivery reflects a situation typical of the innovations and diffusions process. Distance education administrators have generally given three stages high priority: 1) the technology adoption, 2) the acquisition and development of programming, and 3) the evaluation of effects. Less attention is given to policy development. Although most current policy research consists of descriptions, rather than evaluation and analysis, of policies, a number of significant policy issues need to be addressed by systematic research. Hezel Associates has researched statewide telecommunications and issued a report both describing the planning and implementation of telecommunications activities in all 50 states and evaluating telecommunications governance structures. An analysis of their findings resulted in the identification of critical policy issues for distance educators and the development of a "policy taxonomy." Other important research includes the 1989 Office of Technology Assessment report; research by the U.S. Department of Education on the importance of technology and telecommunications in resolving national education issues; and research by independent investigators into types of distance education funding sources, laws and policies affecting distance education, and the availability of reasonable-cost telecommunications services. (pp. 59-63)

DISTANCE EDUCATION SYMPOSIUM: SELECTED PAPERS. PART 3. ACSDE RESEARCH MONOGRAPH NUMBER 9

ATMAN, K. Conative capacity and attention control: Implications for distance education.

Conation is described as one of the tripartite faculties of the mind: cognition (knowing); affection (valuing), and conation
(striving). It is a condition of directed personal energy. Attention control is the ability to respond appropriately to demands in the external and internal environments without becoming overwhelmed. Both conation and attention control must be manifested by students if they are to successfully complete courses in a distance education context, which requires high levels of self-direction and goal orientation. The goal setting process is described by Atman in the Conation Cycle, a twelve-step problem-solving/decision-making model that describes concrete goal-setting behaviors. These behaviors can be measured by the Goal Orientation Index (GOI); attention control capacity can be assessed by Nideffer's Test of Attentional and Interpersonal Style (TAIS). Atman reports on a study undertaken to determine possible correlations between the twelve steps in the Conation cycle and the six dimensions of attention control. Results from eighty-eight undergraduates who took both the GOI and the TAIS suggest a link between conation and attention control. This connection should be studied in a distance education context in order both to identify and counsel distance education students whose weakness in these two areas of mental functioning may put them at risk for failure. (pp. 1-7)

DONALDSON, J. Boundary articulation, domain determination, and organizational learning in distance education: Practice opportunities and research needs.

The changing nature of higher education and its environment calls for a more rigorous application of organizational theory to issues of management and administration in distance education, particularly in the areas of boundary articulation, domain determination, and organizational learning. Demographic changes and new technology have increased the permeability of the boundaries of institutions of higher education; that is, contact with and influence by those outside the institution have increased. However, access by certain populations is still limited. A few institutions have welcomed the changes necessary to incorporate a distance education model, yet many others have maintained high levels of containment in relation to traditional educational policies and practices. Distance educators can help institutions focus on these factors of boundary articulation, which need to be addressed and changed to allow an educational institution to respond effectively to a changing environment. The issue of domain raises questions of the legitimacy of distance education programs within higher education institutions. The process of organizational learning can contribute both to the building of internal support and the development of effective leaders, which is necessary to establish and maintain such legitimacy. To realize their potential as boundary spanners for the parent institutions and to convince others of their value in this role, distance education programs must learn how to learn from their environment. Lower level, single-loop learning must be supplemented by higher level, double-loop learning, which questions and challenges operating norms and standards of action with a view to changing them as environmental conditions change. Research necessary to facilitate such change must focus on questions relating to 1) factors that influence organizational learning; 2) the relationship between an internal organizational focus and the ability to engage in higher order learning; 3) factors that affect institutional
boundary articulation; and 4) institutional assumptions that constrain the work of distance education units. (pp. 8-13)

GUNAWARDENA, C. Collaborative learning and group dynamics in computer mediated communication networks.

Learner-learner interaction and group work have been shown to increase motivation, completion rates, student satisfaction, and, in some situations, performance. Computer mediated communication, because of its conferencing feature and time- and place-independent nature, can provide opportunities for interaction of a more collaborative, group-oriented nature than do other two-way, interactive educational technologies. To fully realize the potential benefits, a variety of factors relating to collaborative learning via computer conferencing must be investigated and then addressed in practice. Issues of importance include the interaction of group dynamics and collaborative learning; the appropriateness of computer conferencing for forming the webs of communication necessary for learners to synthesize ideas and "build knowledge"; facilitation of equitable participation, social equality of participants, and social cohesion; minimization of communication anxiety; and the importance of a strong moderator willing not only to facilitate but to participate as a fellow learner. (pp. 14-24)

EGAN, W.; J. SEBASTIAN; M. WELCH; and B. PAGE. Identifying performance improvement prescriptions for distance learning and teaching: Quantitative and qualitative approaches.

Distance education researchers are attempting to isolate the particular instructional, technological, and communication factors that contribute significantly to positive outcomes for distance learners and educators. Researchers and educators in the University of Utah's Department of Special Education have used a variety of quantitative and qualitative approaches to first investigate, then improve, student performance and satisfaction. Quantitative studies based on course evaluations and objective tests in both on- and off-campus classes identified areas in course design that needed improvement; subsequent course adjustments resulted in a substantial improvement in the perceptions of both distance and on-campus learners. However, quantitative investigative techniques, while useful in identifying areas of concern, did not result in the type of information necessary for prescribing appropriate solutions. Focus group studies with experienced distance learners provided results specific enough to be useful in identifying and implementing necessary changes in course design. These group discussions, centered around the question of "What makes a difference in televised instruction?", provided information about the criteria distance learners used in rating course and media evaluation items. Focus group proceedings were videotaped, transcribed, and subjected to standardized analysis procedures. The information gathered in this manner is precise enough to suggest specific, appropriate course improvement prescriptions to address problems identified in the earlier quantitative studies. (pp. 25-36)
MILLER, G. Designing policy tools for the third generation of distance education.

Most state and national policy issues relating to distance education have resulted from the issues of the increasing complexity of the telecommunications environment and the development of distance education capabilities in traditional educational institutions. Policy research is needed to aid state regulators, regional accreditors, state and national legislators, and policy makers in making their decisions in a changing educational environment. Organizational effectiveness studies could identify criteria for planning networks and coordinating educational and non-educational applications of state-owned technology and provide examples of effective organization which states could adapt to serve their own needs. Additional research is necessary to establish a common terminology that relates to the new technological environment in order 1) that discussion and regulation of new technology need not be limited by relation or comparison to the traditional classroom and 2) that distinctions among terms are clear. Cross referencing of terminology is necessary for improvement of communication and interpretation of existing and future policy. Policy research should not be directed at improving practice but to "improving the environment in which distance education operates." (pp. 37-41)

BAJTELSMIT, J. Research-based approaches to dealing with student attrition: Experiences at The American College.

A summary of the "evolutionary" empirical research on student attrition at the American College is presented to focus attention on the problem and to serve as a basis for both future research and institutional interventions. Implications of student attrition include both students' loss of personal, occupational, monetary, and societal rewards and threats to institutional survival. Institutional responses at the American College have included 1) a measurement and tracking system that provides a segmentation of the attrition problem, suggests causes, identifies intervention targets, and focuses solutions on high-payoff segments; 2) basic research to discover the causes of attrition; and 3) "applied" research that focuses on interventions (relaxation of fixed standards; testing skills program; flexible examination procedures; quality contact; mentoring) and their outcomes. (pp. 42-48)

LEITER, R. Synergistic model for statewide telecommunications success.

Successful statewide systems of distance education are based on the appropriate integration of four key components: planning, commitment, coordination, and funding. Task-force planning, on both the campus and state levels, should identify needs and goals and must address issues of turf, control, funding, equipment, etc. Commitment must come not only from a few innovative individuals, but from the top levels of management, as well. In this way the program's chances for continued financial support and, therefore, continued existence, are
enhanced. During the coordination phase, all who are shareholders in the programs decide what programs will be delivered, when they will be delivered, and who will deliver them and by what means. The major investments required by distance education systems necessitate that funding should be approached as a long range issue. While support from business and industry, as well as from private foundations, is often available to initiate a program, its long-term survival will depend on support from state governments. The synergistic model presented here integrates the four key components to show how the stakeholders in a statewide distance education system can work together to effectively deliver educational programming to a wide range of audiences. (pp. 49-52)


A 1972/73 Two-Dimensional Theory of distance education provided a definition of distance education in terms of its constituent elements: learner autonomy (independence); dialogue (interaction between learner and instructor); and structure (extent to which elements of course design are responsive to the needs and objectives of individual learners). This grounded theory, based on inductive analysis of approximately 2000 distance education program descriptions, provided a theoretical framework that initially attempted to differentiate the field of distance education from traditional (contiguous) education. Analysis of one program dimension, "distance", was based on the extent to which they were "highly individualized" or showed "low individualization" and "highly dialogic" or "low dialogic." Highly individualized, high dialogue programs were categorized as being less distant, no matter what the actual physical distance between learner and teacher. In other words, distance is a continuous variable which relates to both contiguous and noncontiguous study. The degree of structure of a program also influences the distance dimension. Highly structured programs that provide few opportunities for dialogue are viewed as more distant, while low structure programs in which interaction between teacher and learner is facilitated are classified as less distant. The second dimension of independent learning and teaching, learner autonomy, is measured by the extent to which programs allow learners to control or influence their own learning. This concept, initially viewed as relating primarily to the education of adults, should now be viewed as relevant to all educational programs. Critics have contended that the model should provide for evaluation by distance educators; have suggested an alternative definition of structure; and have questioned the possibility of judging the degree of a program's autonomy from externally visible evidence.

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