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#### EDITORIAL

This issue of DEOSNEWS contains abstracts of research monographs published by The American Center for the Study of Distance Education (ACSDE). This Research Monograph Series is published in conformity with ACSDE's mission of promoting distance education research, study, scholarship, and teaching and serving as a clearinghouse for the dissemination of knowledge about distance education. It complements the comprehensive scope of The American Journal of Distance Education by providing a forum for articles of a more technical or specialized nature.

Included are the abstracts of these monographs:

A Survey of State-level Involvement in Distance Education at the Elementary and Secondary Levels

Distance Education Symposium: Selected Papers, Part 1

International Perspectives on Distance Education Research

Computer-mediated Communication for Distance Education:  
an International Review of Design, Teaching and Institutional Issues

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#### ABSTRACTS FROM ACSDE'S RESEARCH MONOGRAPH SERIES ACSDE Research Monograph Numbers 3 through 7

Author(s): Richard England  
Title: A SURVEY OF STATE-LEVEL INVOLVEMENT IN DISTANCE EDUCATION AT THE ELEMENTARY AND SECONDARY LEVELS  
ACSDE Research Monograph No. 3  
Publ: The American Center for the Study of Distance Education

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Pages: 34

Many state and local school systems use technology to address the problems of access to quality instruction and inequities in funding of education. These problems as well as expected shortages of teachers in specialized fields, such as foreign languages, mathematics, and the sciences, will require innovative educational approaches like distance education. A survey of chief state school officers in the United States was conducted in 1990 regarding state-level involvement in distance education and teacher certification issues. Eighty percent of the states responded and the results provide an overview of their distance education activities. The questions and responses of the states are presented in an appendix.

Responses to the survey show a high interest in distance education: 90% of the states are involved in the use of telecommunications to provide education, and their current or planned involvement is through state networking and/or regional and national consortia. Most states recognize the need for funding to develop distance education systems, and survey responses might suggest a national trend; states anticipate funding through special legislation, and they believe distance education systems provide viable solutions to their problems.

Related to the use of technology for instruction is the certification of the teleteacher whose course may originate in one state and be received in another state. Teacher certification requirements vary from state to state, and colleges and universities may also make changes in their requirements. These certification issues increase in complexity when technology is used to deliver education. 85% of the states do not require special certification for distance education teachers. However, many states accept credits earned through distance education formats for graduate teacher education courses and for in-service teacher education. States do differ in their acceptance of credits earned through distance education for certification, recertification and provisional certification for out-of-state teachers. The responses indicate the struggle states face in addressing these issues.

While the survey may raise more questions than it answers, it indicates not only the level of involvement by state school systems in the use of technology but their awareness of the opportunities that exist through distance education.

Author(s): Michael F. Beaudoin, Connie Dillon and Dana Blanchard, Chere Campbell Gibson, Andrew Woudstra and Stephen Murgatroyd, and Stephen J. Wright

Title: DISTANCE EDUCATION SYMPOSIUM: SELECTED PAPERS, Part 1

ACSDE Research Monograph No. 4

Publ: The American Center for the Study of Distance Education

Pub. Yr.: 1992

Pages: 71

This publication comprises five discussion papers presented at The Second American Symposium on Research in Distance Education held at The Pennsylvania State University in May 1991. The researchers were asked to review recent developments in distance education research and to analyze future research needs. An abstract of each paper follows.

#### RESEARCHING PRACTICE AND PRACTICING RESEARCH:

#### CRITIQUE OF DISTANCE EDUCATION RESEARCH AND WRITING

by Michael F. Beaudoin

While the documentation of distance education activities continues to grow, adding new contributions to the research literature is critical to the further development and definition of the growing field of distance

education. This survey of the literature by Beaudoin, however, reveals the lack of research in some areas where there is a strong need. Descriptive and prescriptive articles outnumber empirical studies, and most often the "so-called" research in distance education is evaluative or comparative. This trend is similar to the earlier writings in adult education; distance educators are preoccupied with effective practices and devote little time to research. Yet, solid research, using sound methods, is more generalizable to distance education practice, and a research agenda should address new areas and attempt to answer questions about learners in the distance education context. Some of the questions to be answered are: How do students learn? How best do we teach them? Distance education research should move beyond the old focus on technology, attrition, and comparing distance education to traditional methods of instruction. Research in distance education can guide and enhance practice, and by reflecting on current practices, research findings can be applied to change approaches. Through this action and reflection both researchers and practitioners can contribute to the development of a comprehensive theory of distance education.

#### EDUCATION FOR EACH: LEARNER DRIVEN DISTANCE EDUCATION

by Connie Dillon and Dana Blanchard

Distance education has focused on sophisticated technologies to provide "education for all" through mass media. Using instructional systems design to individualize distance education instruction has promise, but learner support must also be considered in providing "education for each." This paper reviews and analyzes the literature on learner support and explores a framework for analyzing the interrelationship between learner support and two-way communication.

A search of ERIC documents and major distance education journals forms the basis for this review. Four categories emerged from the literature search for analysis: 1) methods of analysis (i.e. descriptions, essays, research studies, literature reviews), 2) institutional context, 3) type of learner support, and 4) characteristics of learners. The focus of this review is on learner support. The articles on learner support were categorized into three related areas: instructional support, student support, and communications support. The literature on instructional support is further analyzed according to Moore's three types of interaction: interaction with teacher, interaction with student, and interaction with the media. A summary of literature is presented which examines learner support and learner needs, content needs, institutional context, and technology.

Much of the theoretical work in distance education is descriptive and suggests a discrepancy between the "ideal" and the "reality" of practice. Several models are presented, the first represents an "ideal" model of interaction. The second model incorporates the factors of learner support (learner and content needs, institutional context, and media) and the interrelationship of interactions. Recommendations are provided for future research on learner support which may help move distance education toward learner driven education, "education for each."

#### CHANGING PERCEPTIONS OF LEARNERS AND LEARNING AT A DISTANCE:

A REVIEW OF SELECTED RECENT RESEARCH

by Chere Campbell Gibson

A review of recent research indicates a changing perception of the learner, from static to dynamic, and a changing perception of successful learning at a distance. The characteristics of a dynamic learner may change over time. These characteristics include predisposing characteristics (educational background, socio-economic status, etc.), life circumstances, and institutional factors. Predisposing characteristics and other affective variables such as commitment, confidence,

competence, striving, learning style, etc. affect learner success and satisfaction. The literature also indicates an increasing interest in how environmental factors affect the learner: life and study circumstances, the courses studied, interest and motivation, and student involvement. While recent studies focus on learner variables, further qualitative research is needed to understand the complexity of learners and the learning environment.

Most of the recent literature on success in distance learning equates success with measures of satisfaction and completion. Emphasis is shifting, although slightly, to studies of surface vs. deep learning, learning strategies, and self-directed learning. Research must begin to address questions such as how institutions and distance educators might aid in the development of dynamic learners, preparing them for the "types of learning required...of the new learning society." As perceptions of the learner and learning change, many questions arise that need further exploration. How might institutions facilitate the growth of a dynamic learner, what instructional designs may enhance learning, and how do interests and attitudes of the learner change over time? These questions will challenge researchers and practitioners in the future.

#### RESPONDING TO CHANGE: DESIGNING A FLEXIBLE LEARNING ORGANIZATION FOR DISTANCE EDUCATION

by Andrew Woudstra and Stephen Murgatroyd

A skilled, educated workforce is necessary for a nation to compete globally, and organizations, including distance education organizations, must be responsive to the changing requirements of the workforce. Because of economic changes, governments and educational systems will be forced to increase efficiency and effectiveness but with fewer funds for programs and facilities. In order to compete, institutions must prepare knowledgeable workers, and education for adults will become both continuous and lifelong. Because distance education organizations serve adults, they will have to change. This change, however, will provide opportunities for distance educators to expand their knowledge and use of technologies to deliver education. Technologies such as tele-communications and computers can extend the classroom and increase interaction between teachers and learners.

As our world changes, new competitive paradigms will develop and organizations may be required to engage in "upside down thinking." They must become "learning organizations" in order to compete and adapt to rapid change. Learning organizations use techniques such as TQC (Total Quality Control) and KAIZEN (continuous improvement), which are now being used in some elementary and secondary institutions. Some components of effective learning organizations include systems thinking (viewing the whole picture), personal mastery, mental models, building shared vision, and team learning. These strategies are necessary in a competitive market and vital to distance education organizations in developing effective, efficient and flexible means to provide education. Literature on organizational theory and distance education is sparse. In the U.S., the majority of distance education units are part of college or university organizations which react slowly to change. With current demands for change, how might the university become a learning organization? The author suggests combining the components of a learning organization (systems thinking, shared vision, etc.) with Handy's Triple I organization (Intelligence, Information and Ideas), an approach which encourages the separate parts of an organization to work in harmony.

A systematic approach to designing a flexible distance education organization includes 1) realizing the need for change, 2) bringing about reform, 3) empowering teams to achieve goals, 4) keeping teams

informed, and 5) evaluating organizational tasks. A flexible distance education organization will have a core of knowledge workers (academics, professionals, staff), a contractual fringe to provide results or products and a flexible labor force of advisors, tutors, and secretaries who are available during peak periods. Change is inevitable and distance education organizations must be prepared to respond to the challenge.

RESEARCH ON SELECTED ASPECTS OF LEARNER SUPPORT IN DISTANCE EDUCATION PROGRAMMING: A REVIEW

by Stephen J. Wright

This review of recent research on learner supports reveals "a preponderance of the best studies" being conducted in institutions outside the United States. U.S. distance education programs, however, can benefit from application of international research findings, and can replicate the models already developed. Much of the research has focused on three aspects of learner support: pre-enrollment activities, tutorial services, and counseling and advising services. Pre-enrollment support activities include self-assessment, information dissemination, orientations, and advice on study techniques. These early stages of interaction are receiving more attention by distance education institutions. Tutorial services can be an important factor in reducing student attrition. In some cases these services are provided through face-to-face contact; and in other cases through print, telephone, video-, audio- or computer conferencing, or through radio. Several tutorial interactions that have a positive affect on completion rates and student satisfaction are academic content assistance, personal encouragement, and individualized pacing. Counseling has been identified as important in promoting student success and course completion, and some institutions have developed effective programs. However, many others only talk about their plans. Adding to the problem is the confusion in defining counseling and advising. Counselors and advisors provide content support and disseminate information, usually by telephone. There appears to be an increase in the use of more advanced technologies for these activities. Career counseling services are seldom available to distance education students.

On the basis of the review, 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 students; student support systems at dual-delivery institutions; and the cost effectiveness of technologies used to provide student support services.

Author(s): Elizabeth J. Burge, Dan O Coldeway, and Borje Holmberg

Title: INTERNATIONAL PERSPECTIVES ON DISTANCE EDUCATION

RESEARCH

ACSDE Research Monograph No. 5

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Pages: 60

This monograph comprises three papers presented at a preconference workshop held in conjunction with the 15th World Conference of the International Council for Distance Education in Venezuela, November 1990. The workshop was titled "Setting a Global Agenda for the Nineties."

MARROW BONE THINKING: TOWARD A FAIR REPRESENTATION OF QUALITATIVE RESEARCH IN DISTANCE EDUCATION

by Elizabeth J. Burge

The value of research is to challenge the "prevailing view" and produce results that provoke, excite, and unsettle. This paper focuses on using the naturalistic research paradigm to encourage researchers to "think

in a marrow bone." The debate over quantitative research and qualitative/naturalistic research continues as researchers attempt to find answers to the complex questions of how humans learn and what influences their learning. The current research in distance education is limited in the knowledge it provides and a more interpretative approach to research, the naturalistic paradigm, may add to this knowledge. The objective of the researcher using the naturalistic paradigm is to go into the field with an open mind and look holistically at the context and events in a natural setting and then to describe the phenomena. This is a profound contrast to the experimental, hypothesis-testing approach of quantitative research. Researchers who have a clear understanding of both approaches, however, will know when to integrate them to take advantage of the strengths of each. The author offers suggestions for future research using quantitative methodologies to address questions in distance education.

The use of qualitative methodologies demands skill and the ability to move between the student world (data gathering) and the academic world (analysis and interpretation). The author presents three qualitative issues to be considered: 1) the "trustworthiness" of qualitative research (credibility, transferability, dependability and confirmability); 2) the awareness of sex biases in research; and 3) the possibility that prediction and control experiments in the behavioral sciences are unsuccessful (Cziko suggests that we have only temporary understandings. He bases this on individual differences of humans, chaos theory, and the evolutionary character of development and learning). Qualitative approaches to distance education research might expand our "marrow bone thinking" and develop research that is more holistic and cumulative.

#### CONCEPTS OF EXPERIMENTAL INQUIRY IN DISTANCE EDUCATION:

##### "A SYSTEMS PERSPECTIVE"

by Dan O Coldeway

As a review of the literature suggests, research in distance education is growing rapidly and many methodologies are available to researchers. This paper focuses on experimental methods in research on distance education. Establishing paradigms for research in a new field is difficult, and while methodologies used in other fields may be generalizable to distance education, there are many variables beyond instruction and learners which are of particular interest to researchers in distance education. These variables may include such factors as organization, policy, administration, and finance.

The author presents a systematic approach to experimental inquiry in distance education. There are four major components of the model. The first component relates to the question and/or the problem of the inquiry. The second part increases the probability of developing an effective approach for examining the question/problem. It includes steps to guide the inquiry; internal analysis, review, design and implementation. The third component of the model relates to quality control and aids the researcher in considering all of the relevant factors needed to address the question/problem effectively. The results of the first three components feed into the theory and empirical base which then drives three other activities: future distance education design, improving existing distance education, and the generation of new questions. Several methods of inquiry suited to distance education are listed and a few are described in detail: component analysis, simulation analysis, and systems analysis. Becoming more sensitive to issues of experimental design and of effective inquiry will benefit the field of distance education as it continues to evolve.

#### ON EUROPEAN DISTANCE-EDUCATION RESEARCH

by Borje Holmberg

Contrary to popular belief, much research is available on distance education. This article focuses on an international survey of research, and seven different areas of research, which are of particular interest to the author, are described. Several European surveys provide information on university distance teaching and about characteristics of institutions; their teaching principles and the media used by tutoring and counseling. Other research has attempted to determine the number of distance education students there are in the world, and what types of students are most successful, the single factor perhaps being personal motivation. Another question addressed in the research is student autonomy, autonomy promoted through individual-centered, group-centered, and problem-centered learning. Many contributions to research in the area of communications have also been made. Much of this research focuses on the impact that frequency of communication and turnaround times have on learning. Another area that has attracted the attention of both researchers and practitioners is the use of technology.

In addition, research on evaluation is gaining attention, and it provides useful information not only on student achievement but also on evaluation of distance education systems. Attempts at theory building and testing hypotheses must continue with the realization that not all practice in distance education can consistently be guided by predictive theory.

Author(s): Rosalie Wells

Title: COMPUTER-MEDIATED COMMUNICATION FOR DISTANCE EDUCATION:  
AN INTERNATIONAL REVIEW OF DESIGN, TEACHING AND  
INSTITUTIONAL ISSUES

ACSDE Research Monograph No. 6

Publ: The American Center for the Study of Distance Education

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Pages: 69

Computer-mediated communication (CMC) is one of the most recent technological systems being used in distance education. Using computers and modems, students and instructors can communicate through a host computer regardless of the time or physical distance separating them. This review provides a summary of literature on design, teaching, and institutional issues related to the use of CMC in distance education. The monograph includes a selected list of organizations using CMC for both education and communication, as well as an extensive bibliography.

The author uses a question and answer format to emphasize the practical focus of the review and to aid the reader in locating information quickly. Issues related to designing a CMC course are presented in Part One. A sample of the questions posed in this section follows. What course content is appropriate for use in the medium, and how can CMC be used in a course (i.e., as an option, a replacement, or primary teaching medium)? Does the use of CMC affect student participation, and how can students be encouraged to use the medium? Can group work be supported in the CMC environment? Is there an appropriate class size for CMC courses?

Part Two, Teaching Considerations, presents information on teaching techniques, teaching styles and challenges for instructors using CMC in distance education. CMC can affect instructional workloads, which may be heaviest in the first offering of a course. Workload might be affected by communications, feedback, design, and computer support responsibilities. In CMC courses, the instructor may adapt a more facilitative style to moderate discussions and encourage student participation. Student participation rates are frequently cited in case studies. However, the quality and quantity

of these exchanges are less important than the content of the messages, and content is the area which needs further study. In addition to style of teaching, several instructional techniques are explored. An instructor may establish data bases of model answers, literature references, supplemental materials, etc. Special conferences can also be established to provide feedback on assignments, to post exams, or to discuss computer problems. Peer tutoring and learning is another technique used to encourage participation.

The third part of the monograph discusses institutional issues related to CMC. The first section addresses the question of access to computers. Student success in CMC courses depends on convenient access to a computer. Institutions are advised to gather data on student access prior to exploring the use of CMC in courses. Since convenient access is a factor in student success, institutions have the option to supply computers to students or place computers in local study centers. Policy decisions on requiring students to own computers or requiring students to have access to certain configurations of equipment are also discussed. Additionally, questions related to computer support are presented. What types of training are required for students, and how long does it take for students to develop proficiency? How can institutions provide this training, and what types of ongoing support is necessary for students during a course?

The final section of the review provides information on marketing, policy, and costs of using CMC in courses. A few scattered studies suggest some reasons students take CMC courses, and these results may provide information for marketing courses. Several policy decisions institutions might consider in implementing CMC relate to 1) choosing a host computer system, software, configuration, and user support; 2) course options; and 3) related instructional staff issues. Information is presented on costs to institutions and costs to students. Also discussed is the question of who pays the costs of communication for CMC courses. At the end of each section of the review, the author offers suggestions for further research on design, teaching and institutional issues related to using CMC in distance education.

Author(s): Morten Flate Paulsen

Title: FROM BULLETIN BOARDS TO ELECTRONIC UNIVERSITIES:  
DISTANCE EDUCATION, COMPUTER-MEDIATED COMMUNICATION,  
AND ONLINE EDUCATION.

ACSDE Research Monograph No. 7

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Pages: 67

This monograph presents a collection of separate papers on early and innovative use of computer-mediated communication (CMC) in education. The integrating theme is the relationship between this form of educational delivery and the larger field of distance education. In Part One, Paulsen draws on his own experiences in "The NKI Electronic College" and "Teaching Across the Atlantic: The Connected Education Experience" to trace the development of two pioneering projects in computer-conference-based distance education. The description of the NKI experience over a period of five years includes information on course design, finances, institutional organization, student achievement, and student and faculty perceptions of educational quality. "Teaching Across the Atlantic" presents an in-depth analysis of a single course in relation to Wagner and Gagne's nine events of learning. The article discusses the professional, administrative, and social environment created in this course using CMC and provides suggestions for improvement.

Part Two provides examples of particular CMC systems, courses, and strategies. In "Innovative Computer Conferencing Courses," examples are discussed in terms of opportunities provided, obstacles encountered, and suggested improvements in course design.

"Computer-Mediated Communication in Distance Education Around the World, An Annotated Bibliography" is a selective sampling of international approaches to computer-mediated distance education. Included are descriptions of programs in North America; Europe; Australia and New Zealand; China; Indonesia; and Latin America.

Part Three comprises reflections on experience, conclusions, and predictions for the future. "GO MEEC! A Goal-Oriented Method for the Establishment of an Electronic College" describes a ten-point systems development approach for establishing a wide array of CMC systems including electronic colleges, ad hoc courses, and research networks. Based on the perceived importance of training, support, motivation of people, and technological progress, this "milestone plan" has two result paths: one path dealing with people, the other with technology. The guidelines in the model are designed both to identify components necessary for the development of an electronic community and to illuminate potential obstacles to this process. "The Electronic University" envisions the possible course of development of today's computer conferencing systems into future electronic universities capable of handling hundreds of thousands of students. The article addresses the challenges inherent in this development, provides examples of institutions having individual characteristics necessary in such a large-scale operation, and presents a vision of the potential educational and social benefits to be realized through the implementation of electronic universities. The final article, "The Hexagon of Cooperative Freedom," is a first attempt to develop a theory of distance education attuned specifically to CMC. Focusing on the interplay of independence and cooperation within the dimensions of time, space, pace, medium, access, and curriculum within distance education contexts, Paulsen argues that computer conferencing can foster both freedom for the individual and group cooperation.

The Foreword and Afterword of the monograph are by Linda Harasim and Robin Mason, respectively, well known researchers in the field.

----- End of DEOSNEWS Vol. 2 No. 20 -----

[Top of Page](#)