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EDITORIAL

Earlier this month Dr. Connie Dillon of the University of Oklahoma contacted me to see if I would be interested in publishing an annotated bibliography that had been developed by graduate students in one of her classes. Because we at the American Center for the Study of Distance Education receive so many requests for research-based information about specific aspects of distance education, I viewed Dr. Dillon's inquiry as an opportunity to share these summaries of current research with DEOSNEWS readers. The students' original annotated bibliography covered six topics. Abridged annotations of articles in the first two subject areas, Technology and Instructional Design and Learning and Learners, are presented in this issue of DEOSNEWS; future issues of DEOSNEWS may feature other sections of this useful work.

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A Review of Distance Education Research: An Annotated Bibliography Approach

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INTRODUCTION

This annotated bibliography has been prepared with the hope that researchers and practitioners in the field of Distance Education will find here a useful review of articles that are currently appearing in refereed journals. Our investigation of distance education literature focused on the following topics: Technology and Instructional Design; Learners and Learning; Learner Support; Faculty; Administration and Organization; and Policy. Reviews of articles in the first two areas are included here.

The methodology was developed from a Research and Theory class led by Dr. Connie Dillon at the University of Oklahoma. Students were master's and doctoral level students. A research critique guide was developed in the class and students did literature searches on the topics identified above. It is sincerely hoped that this material will prove to be as useful and valuable to others as it proved to be to those who presented their annotated bibliographies. Gratitude is expressed to the authors of the articles which were reviewed; they served as "instructors " in content and as a laboratory in research for the class.

TOPIC 1: TECHNOLOGY AND INSTRUCTIONAL DESIGN

ANDERSON, T. D. & GARRISON, D. R. (1995). Transactional issues in distance education: The impact of design in audio teleconferencing. *The American Journal of Distance Education*, 9(2), 27-45.

Research Questions/ Hypothesis: Students' perceptions of learning in an audioteleconferencing context were studied to better understand the influence of teacher-student and student-student communication. Specific focus was on the development of a community of inquiry and critical thinking ability. The study also reviews the context in which audioteleconferencing is used to discover variations in instructional design which influence students' perceptions of learning.

Populations/Sample: Students in this study were enrolled in 24 classes (graduate, undergraduate, and credit diploma levels) at two Canadian universities. The classes were scheduled, interactive, synchronous, and delivered through audioteleconferencing, the most common form of interactive distance delivery in Canada. Through survey results, the students were described as mature, career oriented, and with previous experience in education.

Research Design/Data Analysis: The study used quantitative methodology (a mail survey) and qualitative methodologies (teleconferencing observations, semi structured interviews, and a focus group). The analysis of the survey data provided the basis for developing interview questions and the basis for analyzing the qualitative data gained.

Findings: Two different design models were discovered during the study, with significant differences in perceptions of learning between the two student groups. One model is the Community of Learners (COL) and the other is the Independent Learning Support model (ILS). Both models are described in the text of the study. The COL students perceived the audio conference as supporting the development of a community of inquiry while the ILS students had a much lower perception of a similar type of community. The COL group also indicated a greater perception of opportunity to be involved in critical thinking. The COL group placed a higher value on shared learning while ILS students placed a greater value in independent studies. Students were also asked to rate the effectiveness of learning resources and student support components. Results showed the perceptions of the effectiveness of learning support and resources is very different in both groups. The design of the instruction in the courses used in this study significantly influenced students' perceptions of learning. The study suggests that different designs produce different outcomes and that instructional design must be matched to instructional purpose. Study of instructional designs should be a focus of future research.

BURGE, ELIZABETH J. (1994). Learning in computer conferenced contexts: The learner's perspective. *Journal of Distance Education*, 9(1), 19-43.

Research Questions: 1) How do learners say that they learned? 2) What, in their opinion, are the salient features of computer conferencing? 3) What, if any, are the effects of those features on

their learning? 4) Do the students descriptions of how they learned relate to learning strategies as found in cognitive psychology literature?

Population/Sample:Two instructors and twenty-one of twenty-three students participating in either of two 13 week courses taught using computer conferencing (CC) technology formed the population of the investigation. All students were part-time M.Ed. students; most were teachers. Eight were new to computer conferencing, seven were experiencing their second CC course, four their third course. Three students, all experienced with CC, were enrolled in both courses.

Research Design and Data Analysis:The author employed a qualitative approach, conducting in depth interviews with both the instructors and students before the course began and again after the course was completed. Because of the lack of previous similar studies, the author used the Tessmer and Jonassen (1988) taxonomy of learning strategies to generate questions for both sets of interviews. The two courses were dissimilar in content but were similar in learning levels, with instruction focusing on application, analysis, evaluation and synthesis of knowledge learned. PARTICIPATE computer conferencing software was used for both courses.

Findings:Findings were grouped into four categories: 1) process requirements; 2) peer and instructor behaviors; 3) features; and 4) strengths/weaknesses of CC. Analyses of pre- and post-course interviews identified areas that students and instructors considered vital to the success of CC course design. Aspects of topics such as use of hard- and software, information processing, stress management skills, peer participation and response to messaging, discussion management, time (synchronous, asynchronous, and temporal), information overload, self-imposed exclusion and freedom to reflect on information were among those most often cited in transcripts of interviews.

LAUZON, A.C. 1992. Integrating computer-based instruction with computer conferencing: An evaluation of a model for designing online education. *The American Journal of Distance Education* 6(2):32-44.

Research Questions: The researchers were aware of a discrepancy of approximately one grade between distance education students and on-campus students in a course entitled "The Communication Process," with the on-campus students achieving the higher grades. The course instructor hypothesized that the difference was due to the lack of interpersonal interaction for the correspondence students.

Population: Twenty of twenty-two students were evaluated on: Attitudes toward Computers, Learning Online, and Ratings of Course Components.

Research Design/Data Analysis: The data were collected by an independent evaluator using telephone interviews. The instrument the interviewer used was an adapted post-course questionnaire developed at the New Jersey Institute of Technology utilizing a seven-point Likert scale and Semantic Differential.

Findings: The summary of the findings, which were analyzed through the calculation of percentages, means, and standard deviations, are as follows. 1. Attitudes toward computers as a result of course participation: 74% viewed computers more positively. 21% reported no change; 5% viewed computers more negatively; 2. Learning online: In general, students reported that contact with other students enhanced their learning and made the learning transaction more pleasant. They also found the other students to be generally cooperative. The author concluded that this study advanced the argument that approaches to education and technology used are not mutually exclusive. This author also believed that the study suggests that computer conferencing is an excellent medium for allowing distance learners to interact in meaningful ways.

LEBARON, JOHN F. & BRAGG, CHARLES A. (1994).
Practicing What We Preach: Creating Distance Education Models to Prepare Teachers for the Twenty-first Century. The American Journal of Distance Education 8(1). pp. 5-19.

Research Questions/Hypothesis: Can the present school/teacher-education framework support future educational needs? If we are to change this framework, how are we to go about achieving this goal? What are some of the problems facing teacher education today? How are we to prepare a new population of teachers to go out into the twenty-first century work force? These questions and more were dealt with in the course of this article. The hypothesis contends that we can change these factors by implementing a diverse array of solutions such as effective modeling for learning, promoting peer interaction, encouraging self-direction, and providing on-going guidance and support.

Population: This article was written about and for teachers and teacher-educator groups. The discussion may also apply to the researcher in the field of Distance Education, primarily, and other related fields, generally.

Research Design and Data Analysis: Simulated "classroom"/training sessions with distance-delivered technological capabilities were introduced to a group of participating teachers. The main aim of this project was to "promote student learning based on constructivist assumptions and collaborative inquiry rather than to promote technology use for its own sake" (p. 10). The group was given six day-long sessions in which they interacted over one-way satellite, telephone, computer networking/conferencing, fax, and off-line activities.

Findings: LeBaron & Bragg conclude that although this experiment might have achieved the desired result on some levels, it was not comprehensive enough to be a wide-ranging solution. They found that the given technologies could provide both synchronous and asynchronous communication, but the lack of human contact was a main factor which could not be ignored. Aside from these factors, the teachers seemed to do fine with the project.

TOPIC 2: LEARNERS AND LEARNING

BINER, P.M., BINK, M.L., HUFFMAN, M.L. & DEAN, R.S. (1995). Personality characteristics differentiating and predicting the achievement of televised-course students and traditional-course students. *The American Journal of Distance Education*, 9(2):47-60

Research Questions: In what ways do personality traits differ between traditional students and students in televised college level courses? What specific personality traits are predictive of achievement in televised courses?

Population: The sample was 449 students enrolled in 18 courses at a large Midwestern university. Students in on-campus broadcast classrooms consisted of 128 males, 127 females, with 16 gender unreported. The remote sites had 40 males, 123 females and 15 gender-unreported students. There were usually two to three remote students at each site around the state. The average age of the broadcast classroom students was 22.37. The remote site students had a 36.16 average age.

Research Design/Data Analysis: The study was exploratory in nature. All students in the study filled out the Sixteen Personality Factor Questionnaire (16PF) Form C. In addition, they were asked to sign a waiver releasing their final grade to the researchers. Of the 449 students filling out the questionnaire, 164 telecourse students and 200 broadcast classroom students signed the waiver. The 16PF scores were converted to standardized-ten scores. Age and gender were further investigated and no effects were found. Correlations were done on 1st and 2nd order characteristics. A 2 X 16 Analysis of Variance was conducted. Post hoc comparison t-tests were conducted to identify some personality dimension differences.

Findings: The telecourse students scored significantly higher on four personality factors: Intelligence (abstract-thinking), emotional stability, trust, and compulsiveness (controlled). The Fisher LSD comparison tests showed significant difference between groups on the dependence and control factors.

DILLE, B. & MEZACK, M. (1991). Identifying predictors of high risk among community college telecourse students. *The American Journal of Distance Education*, 5 (1), 24-35.

Research Questions: The purpose of the study was to identify predictors of high risk among telecourse students in a community college. Research questions included: What type of student, in terms of locus of control beliefs, enrolls in a telecourse? What type of student, in terms of learning style, enrolls in a telecourse? What type of telecourse student, in terms of locus of control beliefs, is likely to be academically unsuccessful, i.e. a high risk telecourse student? What type of telecourse student, in terms of learning style, is likely to be academically unsuccessful, i.e. a high risk telecourse student? What learning style is successful in the unique set up, design, and learning activities of the typical telecourse? What locus of control beliefs are successful in the unique set up, design, and learning activities of the typical telecourse? What steps can the community college take to reduce the comparatively high student attrition rate in telecourses? Hypotheses are: 1. There is no difference in locus of control beliefs between academically successful students and unsuccessful students. 2. There is no difference among the four types of learning styles in regard to

telecourse performance. 3. There is no difference between those students attracted to a telecourse and those students who successfully complete the telecourse.

Population/Sample: The sample was 188 telecourse students enrolled in a southwestern community college in the Spring 1989 semester. The three instruments used in the study were completed by 151 students, an 80.3% participation rate.

Research Design/Data Analysis: Three instruments were completed by participants: a demographic survey, the RIELC, and the LSI. Statistics used include ANOVA to test for differences in numerical variables, a chi square test to test for significant differences among categories, and a multiple regression to predict success of telecourse students. Two dependent variables are letter grades in the telecourse and success/non-success in the telecourse. Independent variables are locus of control scores and learning style scores. Covariates include selected demographic data.

Findings: All three null hypotheses were rejected. Seven variables were found to be significant in predicting success or non-success in a telecourse: the RIELC, the LSI score measuring Concrete Experience, the score on the y axis of the Kill LSI, grade point average, credit college hours completed, age, and marital status. The authors provide the following profile of a high risk telecourse student: " 25 years old or younger, divorced, with fewer than thirty college credit hours completed, a GPA lower than 3.0-2.9, a higher than average Rotter score (above 7.5), and a higher than average (25 or above) Concrete Experience score, a lower than average (below 5) AC-CE score".

EFFEH, ENO. (FALL/1991). Determinants of the study patterns of female distant learners: An evaluative survey. Journal of Distance Education 6(2). pp. 58-63.

Research question/hypothesis: How do factors such as maternal responsibilities, family and home chores, and the inadequacy of many homes as the major study base for the home-bound woman affect the female distance learner? How does the female distance learner contend with these factors?

Population/Sample: A group of eighty-four (n=84) adult, female students who were participating in the Nigerian Certificate in Education by Correspondence (N. C. E. cc) were selected to conduct this study. Although it is not stated, we assume that the sampling was random. Eighty-two percent of these women (n=69) were married, of whom 96% (n=66) had children living at home. Of the original 84, 11% (n=9) were single with no children at home, 2%(n=2) were either separated or divorced, and for 5% (n=4) family status was unspecified. All students were practicing teachers and most came from the primary school system.

Research Design and Data Analysis: Two approaches were used to gather data regarding learners' daily study-times (Monday to Friday):

1) Specific response approach, which required each participant to state for each day: a) when individual private studies began, b) when individual private studies ended, c) reasons for the choice of the stated periods; and 2) Direct response approach, which required

each participant to indicate the total number of hours they spent studying each day.

Findings: The researchers found that there were two periods of the day when women were able to study (from 3 a.m. to 7 a.m. and 2 p.m. to 12 midnight.) A total of 109 responses were recorded in this section of the questionnaire, out of which 26% (n=28) indicated the morning session. Far more women were able to study in the evenings (n=81 occurrences) as opposed to the morning sessions (n=28 occurrences). The mean study time of the learners in the morning was: 1 hr. 40 mins., whereas the evening learners had: 2 hrs. 12 mins. The mean daily figure was computed by taking the mean of the morning session, the afternoon/evening session, and the direct response mean of 2 hrs. 40 mins. (the mean of all means). This daily mean comes out to 2 hours and 10 minutes, the figure used as the daily study time for the female distant learners.

The controlled response section of the questionnaire resulted in the following results, which refer specifically to the time at which the survey responses were made: 1) 58% found "the house and surroundings quiet" 2) 20% considered that the time when "learning is best achieved" 3) 14% felt they were refreshed 4) 8% had free time. Several women also listed some of the following factors in the "free response" section: 1) Children disturbing their mothers while they studied; 2) Noise from the neighbors; 3) Inability to concentrate for long periods of time.

FIGUEROA, MARIA LUISA. (1992). Understanding students' approaches to learning in university traditional and distance education courses. *Journal of Distance Education*, 7(3), 15-26.

Research Questions: 1. What relations exist between students' approaches and personal views on learning and a sample of their learning activities? 2. In what ways do students from one population (distance learning) differ from the other (face-to-face lecture courses)?

Sample: Two groups of twenty students each, one group enrolled in distance education courses and the other enrolled in traditional face-to-face courses. Age range in DE courses was between 19-32; age range in traditional courses was 18-26. Subjects ranged from second to fourth year university students. After a brief description of the study was distributed to a variety of classes, the subjects were chosen from a pool of volunteers.

Research Design & Data Analysis: Three measuring techniques were used in the study: a study approach questionnaire, an interview, and a reading activity. All three techniques were applied to each member of both subject groups in the order listed above. The purpose of the three instruments was to "obtain a profile of each participant, ranging from general to specific aspects of student learning"(p.18).

Findings: 1. Distance education students were more interested in their own learning than students enrolled in traditional courses. 2. Students in traditional courses were characterized as "less involved" and exhibited more negative attitudes about their learning environment. 3. There were no significant differences in reading achievement between the two groups.

ST. PIERRE, S. AND OLSEN, L.K. 1991. Student perspectives on the effectiveness of correspondence instruction. The American Journal of Distance Education 5(3): 65-71.

Hypotheses: 1) Students who receive constructive feedback from their correspondence course instructors will experience significantly more satisfaction with correspondence instruction than students who do not receive such feedback; 2) Students who have the opportunity to apply experiential learning and knowledge in a correspondence course will experience significantly more satisfaction with correspondence instruction than students not afforded that opportunity; 3) Students who receive their corrected lessons promptly, especially at the beginning of a course, will experience more satisfaction than those who do not; 4) Students who feel comfortable in engaging in didactic conversation with their instructor will experience significantly more satisfaction with correspondence study than students who do not feel comfortable with this type of exchange; 5) Students who find the pre-produced correspondence course material accessible and understandable, and the course content relevant to their needs and interests, will experience significantly more satisfaction with correspondence study than students who do not experience this; 6) Students enrolled in correspondence courses who interact with the correspondence study personnel and the correspondence instructor will experience significantly more satisfaction with correspondence study than students not involved in such interactions; 7) Students who experience personal satisfaction with a correspondence course are more likely to take another correspondence course than students not experiencing this personal satisfaction

Population: A questionnaire was sent to 700 students randomly selected. 337 students responded (140 male, 197 female); 54% were single. Traditional students (18-24 years) made up 44%, while non-traditional students (25+ years) were 55% of those responding. Nearly 60% worked 40+ hours per week, and a large percentage (62%) were pursuing undergraduate degrees.

Research Design/Data Analysis: A student perception questionnaire was constructed and pilot-tested for the project. It was designed to collect demographic data and information that could be used to test the seven directional hypotheses already listed. Ten items were identified and empirically derived. These items served as the student satisfaction measure and as the dependent measure for the study. Data analysis emphasized descriptive statistics, analysis of variances (ANOVA), and regression analysis.

Findings: All seven directional hypotheses were supported at the .05 level of significance. Motivation was the single most important factor related to student satisfaction. Other findings of interest were that prompt return of lessons was more important at the beginning of the course than later on in the course; didactic conversation with the instructor contributes significantly to student satisfaction; students who experience satisfaction with one course were more likely to take a second course; and interaction between students and correspondence study personnel was only minimally predictive of student satisfaction.

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