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EDITORIAL

Last year at this time, 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. I welcomed the opportunity to provide our readers with a research-based resource on specific aspects of distance education, but space limitations and publication schedules allowed me to publish only a part of the bibliography at that time. The students' original annotated bibliography covered six topics; the first two topic areas of the bibliography, Technology and Design and Learners and Learning, were published in DEOSNEWS volume 6 number 5 (readers interested in this issue can find instructions for retrieving back issues at the end of this article). The introduction to the complete bibliography and an abridged (and minimally edited) version of the second two subject areas, Learner Support and Faculty Issues, are presented in this issue of DEOSNEWS. I hope to publish the last two sections of the bibliography later this year.

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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.

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 3: LEARNER SUPPORT

KIRKUP, G.& VON PRUMMER, C. (1990). Support and connectedness: The needs of women distance education students. *Journal of Distance Education*, V(2), 9-31.

Research Questions: One specific area was the focus of this article: access to local student support services for distance students and the value which the students placed on that support.

Population/Sample: The manner of sampling relates to the unique situation of each university used in the study (FernUniversität, West Germany and the British Open University) and to the fact that the survey was initially designed and used to gather data from one of those universities, not both. For FeU, with a low number of female students, the whole cohort of newly registered female students was used as well as an equal number of men. Men were selected through a stratified random sample which corresponded to the women in the main characteristics of matriculation status and program of study. The response rate was 49%. For OU, equal numbers of men and women were selected by random sampling procedures from students beginning their undergraduate work in 1987. Although response rate was 65%, the researchers chose to reduce the number of surveys used in order to have the samples comparable in terms of subject area. Demographics of respondents including age and family situations are provided.

Research Design/Data Analysis: The authors imply that only a section of the data generated by the questionnaire is actually used for this article. The section used relates to the students' experiences

with study centers and included both closed and open ended questions. Through the use of raw numbers and percentages, the authors compare the responses of men to women at each university and make comparisons between the two universities. Tables are included in the article. In several comparisons, the figures are controlled, such as for geographic area, employment, or household type.

Findings: The findings show "striking similarities" in the answering patterns of women at FeU and OU and describe a pattern of preference among women for shared learning experiences.

Women were more likely than men to make use of local study centers at both universities. The authors suggest their findings have implications for the design of local support systems for distance education students. Further, they question whether the concept of independence in distance education is modeled on male learning styles alone.

CLARK, T. (1993). Attitudes of higher education faculty towards distance education: a national survey. *The American Journal of Distance Education* 7(2):19-33.

Research Questions: The literature review raised five research questions in the mind of this researcher: (1) How receptive are U.S. higher education faculty to college-credit teaching? (2) Are professional characteristics related to receptivity? (3) Does receptivity vary in relation to previous use of distance education methods, classroom use of media, or prior knowledge distance

education? (4) What do faculty think about the different media and about methods commonly used in distance education? and (5) How do faculty explain their receptivity or non-receptivity to distance education?

Population: The researcher identified fifty-seven public higher education institutions (21 public research universities, 20 large comprehensive institutions, and 16 two-year public institutions). Faculty members were chosen at random from each of three departments: chemistry, marketing, and political science. The population was selected from department chairs, tenured professors, and non-tenured professors.

Research Design/Data Analysis: A brief questionnaire of 20 multiple choice and Likert-scale items and three open-ended questions was developed and evaluated at one university (n=9). Then the population, a sample of 502 faculty, proportionately representative, was selected. 480 questionnaires were delivered, 323 were returned, with 317 being judged as usable, for a response rate of 66%. Six items concerned professional and demographic characteristics. Geographical and institutional type, based on location and classification were added as variables. General attitudes toward distance education was sought in five items. Six other items solicited information on media or methods used in distance education. The questionnaire concluded with three open-ended items designed to collect information on of the general concept of distance education.

Data from the surveys were analyzed using Statistical Analysis System (SAS). Frequencies, means, and cross-tabulations were run, followed by ANOVA procedures.

Findings: Several findings were reported based on the questionnaire: 1) Respondents were most favorable toward the use of distance education in college-credit courses developed and delivered by education consortia; 2) Faculty were only slightly positive in their attitude toward the general concept of distance education; 3) Faculty were moderately negative in their attitudes toward personal use of distance education, with the most positive responses coming from department chairs (33.3%) according to position and community college instructors (40%), according to institution; 4) Of the faculty by classification of institutions, the most positive attitudes were found in community colleges, followed by comprehensive universities and research institutions; 5) The academic department with the most favorable attitude was business, followed by chemistry and political science. There was some difference in these scores between the types of institution; 6) There was no significant difference between female and male respondents; 7) Respondents with substantial experience were, on the average, more favorable in their attitudes toward distance education; 8) Videoconferencing was the most favored medium, followed by television.

BRAMBLE, WILLIAM J. AND MARTIN, BARBARA L. (1995).

The Florida Teletraining Project: Military Training via Two-Way

Compressed Video. *The American Journal of Distance Education* 9(1): 6-26.

Research Questions/Hypothesis: The Florida Teletraining Project, funded by the Department of Defense, launched a research project to determine learning effectiveness in a two-way interactive video environment. The measure of evaluation was to determine whether the Military Occupation Specialties (MOS) training to personnel serving in the National Guard and Reserves was viable, conducive to learning, and cost-efficient.

Hypothesis: Null Hypothesis: There will be no difference in the learner's performance when exposed to teletraining support methods. Alternate Hypothesis: There will be a difference in the learner's performance when exposed to teletraining support methods.

Research Questions: 1) Was the learner support approach to training successful in terms of learner achievement? 2) Was the approach to training successful in terms of learner satisfaction? 3) How advantageous was the "high-end" technology, especially in terms of capabilities for high levels of interactivity and high-resolution graphics?

Population: 275 students in three Army MOS-qualifying courses were chosen from National Guard and U.S. Army Reserve units. The 275 learners were divided into five control groups, with 31 Administrative Specialists, 38 Supply Specialists, 25 Military Police, 111 HazWaste Techs and 47 Total Quality Leadership

participants. Also, the U.S. Coast Guard had participants in two courses. The entire project included five courses. Median age of learners was thirty-three, 63% were ranked below E5, yet many officers also participated; 47% of the students in the TQL (Total Quality Leadership) course--emphasizing management--had a bachelor's degree or above.

Research Design/Data Analysis: The Florida Teletraining Project was conducted quantitatively and verified by statistical data. The research design included three instruments for data collection: 1) achievement/proficiency tests; 2) student course perceptions; and 3) student ratings of course components. The latter ranged from Yes- No answers, and a five-point Likert-type scale.

In all cases except the TQL test, pre- and post-tests were administered. Data collection included evaluation of "various participants in the project: students, faculty, field support personnel" and others.

Data Analysis methodology was (ANCOVA) "analysis of covariance with the pretest scores serving as the covariate." The learning method of teletraining was the independent variable, the dependent variable is the learner's performance on the post-test, and the covariant is the pre-test. Research design is arrived at by deductive analysis by using data collection and data analysis methods.

Findings: The five experimental groups were Administrative Specialist, Supply Specialists, Military Police, HazWaste, and TQL. The t-value score differentials for the above-listed groups were

11.41*, 8.57*, 13.56* and 21.54*, with no-pretest for TQL. This statistical data indicates a level of significance which cannot merely be attributed to chance. Thus, evidence was found to support the alternate hypothesis; moreover, evidence was found to override the null hypothesis.

Technical reliability of Teletraining Delivery System: 99.6% reliability. During 422 hours of course transmission, downtime was 1.63 hours. Students rating of "video and audio quality" consistently at/above 4.0 on a 5 point Likert scale. Student course perceptions were evaluated on the basis of "whether they felt the teacher, was in effect, in the same room with them." "Yes" responses varied from 78.8 % to 97.7 % across the five courses. Student rating of course components, such as the 1200 graphic presentations of word pictures ranged from 3.44 in the Military Police Group to 4.43 in the TQL course. Student ratings of Interactivity ranged from a mean high of 4.23 for Admin. Spec. to a low of 3.60 for Military Police in reference to interactivity with instructor. Interactivity with students was evaluated at 3.32 on the 5 point Likert scale.

MAY, S. (1994). Women's experiences as distance learners: Access and technology. *Journal of Distance Education IX(1)*, 81-98

Research Questions: What are women's distance education related experiences? Can these experiences provide information for improving the resourcing for distance education classes, improving accessibility for participants, and enhancing curriculum in distance

education focused on women's issues?

Population: Participant selection was based on diversity of age, geographic location, delivery mode, course, program of study, tutor assignment, and completion status. Nine women who had studied women's studies courses by home-study or teleconferencing from Athabasca University (1990-1991) were selected. The group of women being studied consisted of one native women and eight white women ranging in age from 23 to 67. One was a single parent and the eight others were married. Two were at home with children full time, one was retired and the others worked in professions such as nursing, recreation, counseling, management, social work and clerical support.

Research Design/Data Analysis: The research has a feminist theoretical base relating to the concept of a society based on male hegemony. May "employed women-specific research methodology in order to correct the invisibility and distortion of female experience within distance settings". The study was qualitative in nature. The interviews were tape-recorded, the data was transcribed, names changed, and the data was coded. The students received self-contained course packages and could call their assigned tutor on a weekly basis for academic support and assessment. They use the same course packages for teleconferences. They met with their instructor using audio conferencing for seven 2-hour sessions. For the most part, the women enjoyed the comprehensiveness of the course materials but some also voiced that personal choices were

limited because of the all inclusive way the course was constructed. The telephone was used to elicit educational support, tutoring, and some testing. Some women enjoyed chatting on the phone and developed a rapport with their tutor. However, others worried about the cost of long distance calls (paid by the university). Some students complained that when they needed help they could not get through to their tutor because the line was busy hours at a time. Another complaint was that the tutor did not call to check on the distance learning student until the end of the course. These women felt that the tutor should have been concerned enough to call and inquire from time to time to see how they were progressing. The students' need for privacy from eavesdroppers during the sensitive personal disclosure type women studies classes was not protected.

Conclusions: Twelve different suggestions are presented including: Educators need to be sensitive to women's personal and unique circumstance and investigate ways to help develop effective support systems. Women students require opportunities to make real and significant choices regarding their learning goals and activities. Orientation activities (for tutors) need to include skills training in telephone and teleconferencing technologies and their applications.

MORGAN, C. & MORRIS, G. (FEB., 1994). The student view of tutorial support: Report of a survey of Open University Education Students. *Open Learning* 9(1): pp. 22-33.

Research question/hypothesis: The researchers aimed at finding out what problems their students were having in their studying

endeavors. They also wanted to find out what the students' views were on the issues regarding their tutorial support, group discussions, and any other help they had received in completing this course. Two hypotheses also were included:

1) continuing students who were used to the system and who were 'old hands' at independent study would be more approving of the tutorial support than new students.

2) new students who, as trained professional teachers would previously have had experience of full time face-to-face courses, would be disillusioned with limited or absent face-to-face contact, and would therefore be less approving than continuing students.

Population/Sample: The population sample included 273 male and female student, from North, Middle, South, and West Wales. Main concentration of students occurred in the Southern and Western areas of Wales. Females accounted for double the number of males on the undergraduate level and four-times that on the graduate level.

Research Design and Data Analysis: Fifty-four of the students were contacted (43 by phone), to hear their responses first hand, while the remainder were mailed a questionnaire (21 in all).

Of the questionnaires, 11 were returned (52%). The sample of students was derived from a quota sample frame which took into account the all-Wales gender balance, the demography of the Welsh students on post-foundation courses to give three sub-regions as strata, and the whole range of Education

undergraduates, MA, and associate student nine-month courses.

New students were not included due to their lack of experience. The survey population contacted by phone were to conform to the strata files of the macro population.

Findings: The findings centered around the student's view of tutorial support which included: 1) overall student satisfaction, and 2) satisfaction with the various components of the total tutorial support which they received. On the overall satisfaction, students were asked to sum-up how they felt towards the tutorial sessions they received. They were to rate them on the basis of 'very happy', 'reasonably happy', 'not very happy', and 'not at all happy,' as well as on a scale of 0-10. Fifty-three students participated on the first part of the experiment, and fifty-one on the latter part. 91% of students reported a rating of 'reasonably happy' to 'very happy.'

New students reported favorable results with regard to the tutorial based support, as opposed to the continuing students, who found it less helpful since they were used to a more elaborate system to start with (when they were new students). The students also reported that it was a matter of detail quality and not necessarily the kind of tutoring that was important. They expressed views of wanting a person, namely the tutor, on site to be able to converse with on certain details (customization of instruction) that may have eluded them. Many new students expressed their thoughts of how important the first letter from tutor was (first impressions). Students also expressed concerns which centered around the face-to-face

tutorials and the time which they had to spend getting to the meeting place, as well as the way in which the tutorials were conducted (teacher vs. student oriented.) Out of 54 students, 46% said they attended most or all of the tutorials, while 54% said they attended some or none of the tutorials either for personal or family reasons.

KIRBY, D. M., & CUGH U. (1993) Two views from the bridge:

A comparison of the perceptions of students and instructors of elements in the audio-teleconferencing environment. *Journal of Distance Education* 8(2): pp 1-17.

Research Questions/Hypothesis: The purpose of this study was to investigate students' perceptions and the comparison of students' perceptions with instructors' perceptions. There are two embedded hypotheses:

1. There is no difference between instructors perceptions and students perceptions as indicated by Q-Sort results.
2. There is no difference among perceptions of students.

Methodology

Instruments: Q-Sort is an instrument constructed for the investigation of perceptions of distance education. It has 79 factors for the participant to determine the importance as perceived by the participant. The importance is rated on a 1-9 Likert Scale. The repeat reliability (r) is 0.74 with an S.D. of 0.16.

Follow-up questionnaire: A 10-item follow-up questionnaire on was given. The participants rated the degree to which they agree or disagreed with the statement on a 1-5 Likert Scale.

Population/sample: The participants of the study were the 169 students and 87 instructors. involved in distance education courses at the University of Calgary, Canada. 131 students agreed to participate, 88 completed and returned the Q-Sort and the follow-up questionnaire. 87 instructors completed the Q-Sort. Only 36 instructors returned the follow-up questionnaire.

Research Design and Data Analysis: Cluster analysis was used to determine if there is any differences among the students' perceptions. MANOVA was used to detect overall group differences among the students, and the overall difference between students and instructors. SPSSX was used for the analysis.

Findings: The authors found that the students attach the greatest importance to factors in the instructional environment that are closely related to the quality of learning transaction. They also found that there were two clusters of students: those who attach more importance to student characteristics, therefore labeled as student-centered, and those who attach more importance to the instructional act and thus labeled as instruction-center. The comparison of students and instructor perceptions resulted in the findings that students attach more importance to student characteristics and factors relating to the availability of the course, while the instructors attach more importance to instructor characteristics and the more abstruse elements such as goals of education. Furthermore, the students and instructors clustered on different sets of factors.

TOPIC 4: FACULTY ISSUES

TAYLOR, J. C.& WHITE, V. J. (1991). Faculty attitudes towards teaching in the distance education mode: An exploratory investigation. *Research in Distance Education*, 3(3), 7-11.

Research Question: The purpose of this study was to measure and analyze faculty attitudes at an Australian university towards distance teaching and conventional face to face teaching as they relate to job satisfaction.

Population/Sample: A representative cross section of academic staff (37) teaching undergraduate core courses at the University College of Southern Queensland were surveyed.

Research Design and Data Analysis: Factors related to personal job satisfaction provided the conceptual foundation for examining faculty attitudes. A model developed by V. H. Vroom, called the valence model, was the framework used. Valence is a term used to refer to a person's attitude toward something. Vroom's model, which has been widely tested, determines valence by measuring the "combined effects of a wide variety of beliefs about the desirability of possible outcomes associated with an activity and perceived probability that those outcomes will occur". In this model, attitude is expressed as the sum of the product of two factors, instrumentality and valence. Eighteen outcome factors were used in the survey. As a measure of valence, respondents were asked to identify the 5 most important factors (assigned a value of 3) and the 5 least important factors (assigned a value of 1) as they relate to personal job satisfaction. The eight remaining factors were assigned

a value of 2. To measure instrumentality, they were then asked how they felt about the two methods of teaching in terms of the attainability of each of the outcomes, using a five point scale ranging from a minus 2 (impedes) to a plus 2 (enhances). Tables showing the mean valence and the mean instrumentality for each of the eighteen factors were included, along with a table showing attitude towards each mode of teaching as the product of the two means.

Findings: Faculty place a higher importance on intrinsic rewards associated with teaching rather than with research based activities. The five most important factors related to personal job satisfaction were quality of interaction with students, working with motivated students, satisfaction from the act of teaching, feeling of personal achievement, and high level of student outcomes. Performing administrative duties was consistently rated as being of the least importance. Teachers have a distinct preference for conventional on campus teaching due to factors related to job satisfaction and the perceived ability to attain those through conventional versus distance education teaching.

MALAN, R. F. AND FELLER, S. (1992). Establishing workload equivalence: U.S. independent study courses and college residence classes. *The American Journal of Distance Education* 6(2):56-63.

Research Question: This research was not theory-driven, leading to a hypothesis, but exploratory in nature. The researchers did not have sufficient understanding of the phenomena to form conjectures about the relationships between constructs. The study proceeded

with the following questions, rather than a hypothesis: Was there a movement by colleges involved in independent study to reduce the number of lessons for submission during a course? What were some of the effects of this movement to fewer lessons if, indeed, there was a change to fewer lessons?

Population: In order to ascertain how extensive the movement might be, a sample of college-affiliated independent study institutions was informally identified. The sample was established by considering geographic distribution, size of the independent study program (large, medium, small), use of semester system, and the authors' access to the institution's current catalogue. The authors identified the University of California at Berkeley, the University of Iowa, the University of Kansas, the University of Missouri, the University of South Carolina, the University of Texas at Austin, the University of Wisconsin, and the University of Indiana.

Research Design/Data Analysis: Five courses with heavy enrollments were identified and examined for number of required lessons. The study found that, indeed, the number of lessons required was no longer 15-18, but as follows:

COURSE AVG. NO. LESSONS

Intro. to Accounting 11.4

Freshman English 11.1

US History/Government 10.9

Intro. to Psychology 11.0

Intro. to Sociology 10.0

This study found no research reporting the effects of reducing the number of lessons per course.

Findings: The research identified a movement toward reducing the number of lessons per course. Brigham Young University began a program of review for each course, with the objective of reducing the number of lessons while maintaining an academically defensible learning experience. The main strategy of the administration was to authorize course designers to work with faculty to organize courses in units with self-directed quizzes, followed by unit exams. This design provided students with feedback on their progress, reduced the number of lessons submitted, and reduced the amount of marking by faculty.

Reported results are as follows:

Students: Students were more motivated and consistent in submitting lessons. Time required for course completion was reduced from 41.1 weeks to 27.9 weeks. Completion rates increased to 75.6%, compared to national rates of 64.8%.

Faculty: Faculty, in effect, doubled their pay. A formula was created to ensure the same pay with 50% less marking of student work. More faculty became involved with independent study teaching due to the more reasonable workload. Course quality improved because faculty have more time to focus on the quality of their courses.

Administration: Turn-around time decreased to two days, compared to the national average of 9.4 days. Only 69% of lessons have to be

physically handled by the department, saving labor, equipment, materials, and postage(substantial postage reduction of 31%).

KIRBY, D. M. AND CHUGH, U. (1992). An Investigation of Instructors' Perceptions of Elements in the Audio-Teleconferencing Environment. *Journal of Distance Education*. Spring 1992 VII(1): pp. 25-38.

Research Questions/Hypothesis: 1) To what extent is the population of instructors homogenous in its perceptions of factors which influence teaching strategies? 2) Do different types of instructors exist as determined by their perceptions of the global instructional environment? 3) Which factors do instructors consider to be the most and least important when considering teaching strategies for their courses?

Population/Sample: A purposive sample of 120 Teachers who taught distance education courses at institutions of higher learning in Canada constituted the selected population. 87 Teachers, or 72.5% became participating respondents in this Q-Sort. A part of the population were chosen from the Directory of the Canadian Association of Distance Education, part were chosen from the collegial rank of the University of Calgary, and the third part was chosen from instructors recommended by the first two groups. The sample itself was partially representative of different institutions and different regions of Canada.

Research Design/Data Analysis: The research design was a valid quantitative instrument and complex Q-Sort using a cluster analysis

method for interpretation of data, which is finally filtered through a t-test to reveal the level of significance of the final results.

Data Collection: The instrument was a Q-Sort. The methodology of this Q-Sort was developed by six experts in audio-teleconferencing from the University of Calgary, Canada. The items were classified into five categories: instructor characteristics, student characteristics, environmental characteristics, technological characteristics and perceived goals of education. Starting with a pool of 120 items, 79 items were operationally defined and sorted into a continuum in response to a criterion statement: "Which factors do you perceive to be the most and least important when considering the teaching strategies for the course you are about to teach?". Data analysis was accomplished by cluster analysis. Data were coded by assigning numerical ranges from 1 (least important) to 9 (most important), thus establishing statistically measurable interval units. The Clustan software package was used. The data are formed into single member clusters, and at each step "a pair of clusters is amalgamated ... into Euclidean sum of squares." Then, data are optimized by "minimizing the Euclidean sum of squares as an objective function." Finally, the cluster analysis of the Q-sort indicated two distinct cluster of "29 and 58 instructors respectively."

T-tests were conducted on each of the 79 perception variables.

Findings: The Q-sort instrument used in this study required instructors to rank variables in order of importance in choosing teaching strategies. The result of the cluster analysis revealed two

distinct clusters of instructors within this distance instructional professoriate. The cluster analysis revealed two subgroups within this tested grouping. Two types of instructors groups were identified. The first group ranked factors that related the use of technology as being more important for instructional methodologies. The second group ranked factors which related to a more traditional mode of instruction as being more important. "The range of mean rankings was from 7.83 to 1.60 on the 9 point scale (9=most important and 1=least important)."

Academic indicators: Interestingly the respondents gave a high ranking for instructor aptitude for teaching, and instructor's verbal skill as 7.83 and 7.63. Student's motivation and aptitude/ability were ranked as 7.74 and 6.54 respectively. Of the top 10 items, "five are instructor characteristics and four student characteristics." Instructor and student academic background ranked at 5.08 and 5.07, at the mid-point of the mean. Student and instructor gender, ranked lowest at 1.77 and 1.66, respectively.

Statistical significance: 29 (36.7%) of the 79 of the factors tested yield statistical significance. Cluster I represents the first group, Cluster II the second group. By way of comparison, examples of significant t-values from Cluster I and II, concerning Instructor's Aptitude for Teaching were 7.48 vs. 8.01; Instructor's knowledge of the Structure of the Curriculum was predictable: 6.75 vs. 7.58. Most significant was the ranking of Student experience with Distance Education, 5.89 vs. 4.23 and Student Ease of Use of

Equipment, ranking 7.13 vs. 5.44.

DE VRIES, L., NAIDU, S., JEGEDE, O., & COLLINS, B.

(1995). On-line professional staff development: An evaluation study. *Distance Education*, 16(1):157-173.

Research Questions: To study the effectiveness of utilizing teleseminars as a faculty development activity, the researchers posed the following questions: 1. Is computer-mediated-communications (CMC) a "viable medium for the professional development of staff interested/involved in distance education? 2. Does the nature of moderation of CMC-based discussions influence the nature of contributions from subscribers? 3. Do the participants use different strategies (interactive, cognitive, and metacognitive) in an electronic discussion?

Sample: The subjects of this research project were faculty and staff members from institutions of higher learning in Australia: 51 were from the University of Southern Queensland (USQ); nine were from outside USQ. Of the 51 from USQ, 23 were instructional designers and course materials development staff from the Distance Education Center (DEC); 20 were subject-matter specialists in the various Faculties of the University; eight were from other areas of USQ.

Methodology: Quantitative and qualitative research techniques were employed during the study. Data collected included the full text of each discussion and a post-discussion questionnaire. A six week teleconferencing seminar was offered to the staff of The University

of Southern Queensland. Discussions were restricted to specific times and focused on three issues identified as discussion topics: Instructional Design Issues; Role of ID in DE Material Development; and Instructional Potential of CMC. Two weeks of discussion time was allotted to each issue. Three members of the DEC served as moderators to manage and facilitate discussions. Nine experienced instructional designers and users of CMC from Australia, Canada, and The Netherlands were also asked to participate and were used to validate the post-discussion questionnaire.

Data Analysis: Three levels of analysis were derived from data collected: 1) "What was said" and "How often it was said" (questionnaire); 2) "How things were said" (data about participation and interaction among participants); 3) Use of cognitive and metacognitive strategies of participants. Complete texts of the discussions ("seminar protocol") were first analyzed by the first author, followed by a similar analysis of a randomly selected sample of the seminar protocol by the second author. Analytical techniques designed in a previous study for analysis of this nature established inter-rater reliability.

Findings: The findings were organized in answer to the research questions. Question 1: Is CMC a "viable" medium for professional development activities? Question 2: Do moderation strategies influence the nature of participant contributions to CMC-based discussions? Question 3: Do participants use a variety of

strategies to manage their learning and participation?

All participants found the teleseminar interesting, useful and successful.

THACH, E.C. & MURPHY, K.L. (1995). Competencies for distance education professionals. *ETR&D* 43(1): pp. 57-79.

Research Objectives: Identify the professionals' key roles, outputs, and competencies in DE. Rank order the importance of each output competency. Identify whether or not the roles, outputs, and competencies could be grouped to create a Descriptive Competency model for distance education.

Population: The population consisted of distance educators from the United States and Canada who were associated with academic institutions and working in DE research or teaching in distance education for at least a year. From this population, 103 experts were identified and invited to participate in the survey. Fifty-one educators agreed to participate in the first round, and of those 51, 36 participated in the second round.

Research Design/Data Analysis: A modified Delphi technique was the research methodology employed to identify competencies.

Round one survey was sent out with a cover letter requesting participation. The survey was an open-ended form which asked participants to identify distance education roles, outputs, and competencies. After the responses were compiled, a second round survey was sent out to the distance educators who had responded to the first round. It contained the 11 roles, 84 outputs and 51

competencies identified after summarizing the experts' responses from the first round. The second round survey included a five-point scale for rating the importance of the outputs and competencies.

Blank spaces were included to allow the experts to add additional roles, outputs, and competencies. The response rate was 73%. Data from the second round were analyzed using the mean and standard deviation. Engineering skills, Technology Operation/Repair Skills, Planning Skills, Content Knowledge, and Modeling of Behavior Skills were ranked most important to a specific role. Interpersonal communications skills, English proficiency, Collaboration/Teamwork skills, Writing skills, and Planning skills were the most frequently cited competencies for all 11 roles. Learner needs assessment and learning styles didn't receive high rankings.

The researchers were surprised by this, but surmised that traditionally the learner adapted to the instructor's style in group learning situations.

Conclusions: The researchers used the data to construct a "Distance Learning Roles and Key Competencies Model" in conjunction with a Table of the "Outputs and Competencies for Distance Learning Roles" to provide a foundation for distance teaching faculty development programs.

BLACK, JOYCE E. (FALL, 1992). Faculty Support for University Distance Education. *Journal of Distance Education* 7(2): pp. 5-29

Research question/hypothesis: The scope of this study was restricted to faculty perceptions of distance education courses for

degree credit and to full-time teaching faculty in one conventional Canadian university, The University of British Columbia. How do faculty view distance education and how would they react to it when give the option to vote in a council session? The hypothesis is that the faculty highly associated with distance education will be more readily accepting of introducing this form of education into general practice, while those less familiar with distance education (more traditional) will tend to shy away from and maybe even oppose such a move.

Population/Sample: The scope of this study was restricted to faculty perceptions of distance education courses for degree credit and to full-time teaching faculty in one conventional Canadian university. The research was to assess the possibility of introducing distance education courses into the teachers' curricula. Four-hundred and eighty-seven (487) faculty members were surveyed by mail.

Research Design and Data Analysis: The conceptual framework consisted of five concepts: 1) Support; 2) Familiarity; 3)

Professional Characteristics; 4) Compatibility; and 5) Feasibility.

The study included a mailed survey which investigated the extent of faculty familiarity with and support for distance education. On the basis of this information, faculty were divided into three categories of support for distance education: supportive, divided support, and opposed. Representatives from each group were then interviewed (n=50). The project included a two phase operation. Phase one

included four mailed research questions (2 of 4 listed): 1) To what extent are faculty familiar with distance education? 2) To what extent do faculty support distance education?

A Likert-type questionnaire designed and pre-tested for the study was used. A short explanatory note was included to define distance education.

The survey sample was selected to allow for subgroup analysis by gender and by four disciplinary groupings used in research on academic culture. Phase two used the survey findings to select faculty (n=50) for semi-structured, face-to-face interviews to answer two research questions (1 of 2 included):

1) How do faculty who are supportive of, opposed to, or divided in their support for distance education understand the compatibility and feasibility of distance education?

Findings: Of 670 faculty, 73% responded, with 200 responses coming from women and 287 responses from men. The data was analyzed descriptively and by using a chi-square. Level of significance was set at 0.01. The majority of the respondents were not familiar with distance education beyond hearing and reading about it incidentally. Seventy percent (70%) of subjects had heard about distance education offered by UBC. More respondents (79%) had heard about distance education offered in other universities and colleges. Fifty-five percent (55%) had read about distance education generally in newspapers or in magazines. Six percent had been distance students themselves. The overall lack of faculty familiarity

with distance education is similar to that reported by other sources.

The familiarity scores grouped into three categories of analysis:

- 1) Low (43%)
- 2) Some (40%)
- 3) High (17%)

It is noteworthy to mention that faculty involved in distance education courses as students favored the use of it on all levels of education. Further, the teachers who had been previously exposed to this form of education were more likely to vote towards implementing the system for institutional purposes.

KIRBY, D. M., & CUGH U. (1992) An Investigation of Instructors' Perception of Elements in the Audio-teleconferencing Environment. *Journal of Distance Education* 7(2): pp 25-38.

Research Questions/Hypothesis: There are two implied hypotheses or research questions:

- 1) There is no difference among instructors in their perceptions of the importance of the elements of audio-teleconferencing environment as indicated by Q-Sort results, and 2) The population of instructors is homogenous in its perception of factors in the audio-teleconferencing environment.

Methodology:

Instruments: Q-Sort is an instrument constructed for the investigation of perceptions of distance education. The researcher conducted a brainstorming session and generated a pool of statements that are considered elements affecting audio-conferencing

environment. Six experienced instructors were interviewed and asked about the factors they think that are important. 120 items were derived from the brainstorming and the interviews. Four educators at the University of Calgary were chosen to validate the items by determining the construct validity of the items. The 79 items were used in the final administration of the measure. The 79 items reflect the factors for the participant to determine the importance as perceived by the participants. The repeat reliability (r) was 0.74 with an SD of 0.16. There were four weeks between the two administrations of the Q-Sort measure.

Population/sample: The participants of the study were 120 purposive subjects who were audio-teleconferencing instructors. They were selected by the investigators of the study. 87 responses were received. The authors reported the limitations of such samples and warned that the results of the study may not be generalizable to other settings.

Research Design and Data Analysis: The 79 items reflecting the elements were printed on separate cards. The instructors were asked to sort the cards by the importance. Cluster analysis was used to identify homogeneous groups or clusters of cases based on their values for a set of variables. Agglomerative hierarchical clustering is a method for creating clusters in which each case starts out as a cluster. At every step, clusters are combined until all cases are members of a single cluster. Once a cluster is formed it cannot be split; it can only be combined with other clusters. Individual

t-tests were conducted to investigate the differences of the clusters of instructors in their perception of each factor.

Findings: The authors found that the instructors clustered in two groups based on their perception of the elements of audio-t eleconferencing environment. Instructors in cluster one ranked more as more important a number of factors directly related to the technology of instruction. The other cluster of instructors rated the overall goals and values of instructors and students as more important. The first cluster appeared have more practical concerns while the second cluster had more general concerns often associated with traditional paradigm of education. The two groups of instructors agreed that gender would not make an important factor in audio-teleconferencing environment.

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