1992

An assessment of nursing continuing education topics that can be addressed by teleconferencing

Myra Sternlieb
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DOI: <https://doi.org/10.31979/etd.tk2a-e6t9>
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**An assessment of nursing continuing education topics that can
be addressed by teleconferencing**

Sternlieb, Myra Beth, M.S.

San Jose State University, 1992

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AN ASSESSMENT OF NURSING CONTINUING EDUCATION TOPICS
THAT CAN BE ADDRESSED BY TELECONFERENCING

A Thesis
Presented to
The Faculty of the Department of Nursing
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By
Myra Sternlieb
August, 1992

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ABSTRACT

AN ASSESSMENT OF NURSING CONTINUING EDUCATION TOPICS THAT CAN BE ADDRESSED BY TELECONFERENCING

by Myra Sternlieb

This study was done to determine what on-site coordinators in the United States and Canada perceived as continuing education (C.E.) nursing interests that could be addressed by video teleconferencing. The study ranked interests in 53 topic areas. An analysis of response differences related to sex, ethnicity, and employment position in the perceived three highest topic areas of interest was also done.

Chi-square comparisons at the .05 level were made in the following categories: (a) age, (b) preferred travel distance, and (c) on-site participation in C.E. to see if there was any significant difference in the perceived three highest topic areas of interest.

These results indicate that most on-site coordinators prefer video teleconferences that deal with psychosocial interaction and also prefer to view the broadcast in or near their own community. Given these considerations, it can be concluded that teleconferencing is a viable way of delivering quality C.E. programs for nurses that meet common national needs.

ACKNOWLEDGEMENTS

The researcher would like to acknowledge her college and the many people who helped her toward completion of this thesis.

The De Anza College television (T.V.) center helped her to produce several nursing related video teleconferences. Subsequently, the college awarded the researcher a Research and Innovation (R and I) Grant of \$1050.00 to pursue a national and Canadian survey of on-site nursing education coordinators conducted in this study. The researcher wishes to thank the college for the incentive that this grant provided in the development, planning, and implementation phases of this survey. She is also grateful to De Anza for its help in covering the cost of materials, mailings, and telephone calls to on-site nursing education coordinators.

A special thanks is also due two De Anza College faculty, Jim Lucas, coordinator of institutional research, and Barbara Illowsky, math instructor, who met with the researcher many times during the project. Their help with the statistical analysis portion of the study was of vital importance to its completion.

The researcher would like to personally thank Professors Emilie Musci, Christine Hooper, and Donald Perrin of San Jose State University for their guidance during this project. And finally, a special appreciation goes to my husband, Ralph Steinke, and my friend, Susan Mieuli, who gave time, energy, and encouragement throughout this project.

TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
Chapter	
1. INTRODUCTION	1
Problem Area.....	2
Purpose of the Study	3
Research Questions	3
Definition of Terms.....	4
Summary.....	7
2. CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE.....	8
Conceptual Framework.....	8
Review of Literature	10
Summary.....	17
3. METHODOLOGY	18
Design.....	18
Setting and Sample.....	18
Human Subjects Approval.....	19
Instruments.....	19
Data Collection	22
Analysis Procedures	24
4. FINDINGS AND INTERPRETATION.....	25
5. DISCUSSION	40
Summary.....	40

Chapter	Page
Conclusions.....	41
Scope and Limitations	41
Recommendations	43
REFERENCES	46
APPENDIXES	
A. Human Subjects Approval.....	51
B. Copy of Standardized Telephone Survey.....	53
C. T. V. Center Permission Letter.....	66
D. T. V. Center Consent Letter	68
E. Permission Letter to Use Hash Survey	70
F. Researcher's Final Telephone Survey.....	72
G. November, 1990 Letter to On-Site Coordinators.....	80
H. List of Random Numbers	82
I. Letter of Confirmation of Selection.....	84
J. Reminder Letter.....	86
K. Researcher's Survey Analysis	88

LIST OF TABLES

Table		Page
1.	Nursing Video Conference Topic Survey in Rank Order of Interest	26
2.	Chi-Square Test of Three Highest Ranked Topics by Age.....	30
3.	Frequency Analysis of Travel Distance.....	32
4.	Chi-Square Test of Three Highest Ranked Topics by Travel Distance	33
5.	Chi-Square of Three Highest Ranked Topics by C.E. Participation.....	36
6.	Frequency Analysis of Three Highest Ranked Topics by Employment Position	38

Chapter 1
INTRODUCTION
Background

Every year, and on a national basis, there is a large demand for nurses to take courses that provide continuing education (C.E.). C.E. is now mandatory in 12 states plus Puerto Rico for license renewal (Florence Nuss, personal communication, California Board of Nursing Registration, August 21, 1991). Among these states, California is a forerunner of mandatory C.E. for nurses, being the first state to pass legislation concerning the issue in 1971 (Betz, 1984, p. 39).

The C.E. nursing process contains the concepts of lifelong learning, an adult activity to maintain competence and motivation in the pursuit of new experiences (Johnson, 1987, pp. 32-34). To that end, the American Nurses' Association (A.N.A.) developed a policy statement and guidelines for self-directed continuing education (Knowles, 1985, pp. 86-100).

All C.E. providers must be approved by their State Board of Registered Nursing (B.R.N.). Jahns, Urbano, M.T., and Urbano, R.C. (1986, p. 11) reported that of the thousands of hospital based and community based C.E. providers in the past decade, many have shown a relative decline in growth. Emphasis has shifted to independent providers that have experienced phenomenal growth and currently offer nurses C.E. home study courses that are less expensive and more flexible in regard to time schedules. Another approach to assist professionals in meeting nursing C.E. requirements is national teleconferencing which uses the concept of live television (video teleconferencing), along with the familiarity of a telephone (audio teleconferencing). The uplink (broadcast) location requires

substantial in kind budgetary and senior administrative support, along with a marshalling of an organization's human and capital equipment resources (Croft, p. 4). The video teleconference uplink can be received nationally as well as internationally by several downlink (receiving) sites. On-site nursing education coordinators at receiving sites are responsible for technical reception and registering members of the audience. Billings (1989, p. 13) and Limon, Spencer, and Henderson (1985) suggested that video teleconferencing can be cost effective because an enrollment of several campuses or sites can be combined. They and others also suggested that video teleconferencing gives the nurses an opportunity to receive C.E. without leaving the work site or facility, and may result in decreasing travel time and costs (Waters, 1985, p. 7).

Problem Area

Duquette, Painchaud, and Blaise (1988, p. 199) and Kuramoto (1985, p. 153) found that nurses in the United States were less likely to participate in C.E. for nursing if cost and location barriers were present. Canada reported a growing interest in providing distance education, or national teleconferencing, for nurses. National teleconferencing can decrease the cost and location obstacles and provide college level programs to nurses at several sites who would be unable to attend traditional classes (Croft, 1986). Based on the Canadian experience and a few preliminary efforts in this country, video teleconferencing is proposed as one solution to providing C.E. that is convenient, appropriate, and cost effective.

The literature reported only a few video teleconferences produced by independent nurse educators (Billings, 1989, p. 15; Limon, Spencer, & Henderson, 1985, p. 313; Waters, 1985, pp. 1-8). No studies were found that

assessed the C.E. video conferencing needs of nurses. This study was designed to gather national and Canadian C.E. needs assessment data that would aid in the selection of future nursing video teleconferences.

Purpose of the Study

The purpose of this study was to determine the participants' C.E. nursing needs and topics of interest as perceived by on-site coordinators. Analysis was done to determine if there was a significance in the perceived three highest ranked topics related to preferred travel distance and on-site participation in C.E. Demographic comparisons were also made to determine if there was a significance in the three highest perceived topic areas related to on-site coordinators' age, sex, ethnicity, and employment position. The target audience included on-site nursing education coordinators in hospitals, colleges, and universities in the United States and Canada who have downlinked nursing broadcasts from the community college's television (T.V.) center. The results were used as a means for determination of future broadcasts.

Research Questions

The study answered the following questions:

1. What were the perceived nursing topics of interest from on-site coordinators that could be addressed by video teleconferencing?
2. How do the perceived three highest topic areas of interest relate to on-site coordinators' age?
3. How do the perceived three highest topic areas of interest relate to participants' preferred travel distance to attend a video teleconference?
4. How do the perceived three highest topic areas of interest relate to on-site participation in C.E.?

5. How do the perceived three highest topic areas of interest relate to on-site coordinators' ethnicity?

6. How do the perceived three highest topic areas of interest relate to on-site coordinators' sex?

7. How do the perceived three highest topic areas of interest relate to on-site coordinators' employment position?

Definition of Terms

For purposes of this study, two types of definitions apply. The first were conceptual; the second were operational.

Conceptual

1. Andragogy is the art and science of teaching adults.
2. Continuing education (C.E.) for nurses is defined by the American Nurses Association (A.N.A.), as planned learning experiences taking place after registered nurse (R.N.) licensing designed to promote the development of knowledge, skills, and attitudes for the enhancing of nursing practice thereby improving health care to the public.
3. Distance learning (see teleconferencing).
4. Lifelong learning is self-directed learning throughout life.
5. Mandatory law is that law which is required and legally binding.
6. Needs assessment is a systematic appraisal of type, depth, and scope of problems as perceived by clients (target audience) or providers, or both, and is used for decision making.
7. Pedagogy is the art, practice, or profession of teaching systemized content oriented instruction.

8. Provider of continuing education is that party who designs and conducts nursing continuing education offerings within the requirements of the State Board of Registered Nursing (B.R.N.) and also has to meet the B.R.N. criteria in order to have a provider number.

9. Teleconferencing is a form of delivery that provides electronic communications between two or more groups, or three or more individuals, who are in separate locations. It includes group communication by way of audio, audiographics, video, and computer systems.

Operational Definitions

1. Audience are the participants who view a teleconference broadcast from its production in the television studio or at a reception site.

2. Audio teleconferencing is a two-way electronic voice communication between two or more groups, or three or more individuals, who are in separate locations. It is commonly known as a “talk back” system.

3. Barriers are those conditions that are deterrents to participation.

4. Broadcast is the transmission of information in one direction that is available to an audience.

5. Downlink is a dish-shaped antenna used to receive signals at the receiving station or the reception site.

6. In kind budget is a dollar amount equivalent included for marketing production, administrative services, network and technical crew fees, supplies, and equipment.

7. Marketing is an ongoing, comprehensive process which involves analyzing the nursing consumers’ needs and wants; the organization’s goals,

objectives, and resources; and, in turn, developing, planning, and monitoring offerings which satisfy both the consumer and the organization.

8. Network is an interconnected group of locations, all or some of which can participate in a teleconference.

9. On-site nursing education coordinator or respondent is the person at the reception site in charge of receiving as well as planning and management of the broadcast. This person also was the sample group in this study.

10. Participant is one of many who are part of the teleconference audience.

11. Remote, receiving or downlink site is the location (which can be either a public or private television studio, or teleconferencing facilities at a college, university, or hospital) for broadcast to both the on-site nursing education coordinator and the audience from the origination site.

12. Satellite time is the length of time purchased on a satellite for purposes of teleconferencing, generally sold in one hour increments.

13. "Talk back" system (see audio teleconferencing).

14. Transponder is the equipment on a satellite which receives the signal from earth, amplifies the signal, and replays it back to earth. The purchase of satellite time is sometimes called "buying transponder."

15. Uplink is a large dish-shaped antenna an earth stationat with high-power amplifiers that transmits strong signals to a specific satellite in space. This dish is usually found at the origination site.

16. Video teleconferencing is the electronic voice and video communication between two or more locations. It can be fully interactive voice

and video or two-way voice and one-way video. It can be full motion video, compressed video, or freeze frame video.

17. Wraparound programming is the local informational or educational activities prior to or following a video teleconference that help focus the content toward outcomes and ideas that will assist in self-directed learning of the viewer or audience member.

Summary

The national supply of C.E. programs may exceed their demand. Programs designed to meet the time schedules, cost effectiveness, and self-directed learning needs of nurses would be most likely to succeed. In an attempt to enhance success, this study assessed participants' C.E. needs and level of interest in topics as perceived by national and Canadian on-site nursing education coordinators. The results will help in the selection of future quality nursing video teleconference programs.

Chapter 2

CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

A national survey for the selection of future nursing video teleconferences has many considerations. This chapter provides a discussion of the conceptual framework for this study. A review of literature is also included.

Conceptual Framework

The conceptual framework for this study was based on the andragogy model for adult learning. The relationship between adult learning and video teleconferencing as a delivery system for C.E. for nurses will be discussed.

Malcolm Knowles is the originator of the andragogy model. "Andragogy" is derived from the stem of the Greek word "aner" meaning "man" (as distinguished from boy) and "agogus" meaning "leader of" (Knowles, 1978, pp. 53-54).

Andragogy is process oriented, in contrast to pedagogy which is content oriented (Knowles, 1978, p. 108). There are seven elements included in this andragogical process (Knowles, 1978, pp. 108-129):

1. Establishing a climate conducive to learning.
2. Creating a mechanism for mutual planning.
3. Diagnosing the needs for learning.
4. Formulating the program objectives (content)
which will satisfy these needs.
5. Designing a pattern of learning experiences.
6. Conducting these learning experiences with
suitable techniques and materials.
7. Evaluating learning outcomes.

Andragogy deals with four main adult learner characteristics (pp. 55-59, pp. 184-5):

1. Self-concept changes from dependency in infancy to self-directedness in adulthood. The presenter is encouraged to “tell it like it is” and “how I do it” rather than to tell the participants what they should do or “talking down” to them.
2. The role of experience is a sharing of life. This sharing expands the knowledge base for experiential learning such as discussion, simulation, and other action learning techniques.
3. The readiness to learn increases because of a need that coincides with relevant developmental tasks in work or social competence. Learning occurs through helping participants with the identification of their knowledge gaps.
4. Adults have a problem centered orientation toward learning and work experience. Involvement in case studies may offer greater learning opportunity than “talking down” to them. Knowles (1985, p. 80) further believes that these characteristics have both relevant technical and clinical applications for nurses’ C.E. The A.N.A. Policy Statement and Guide for Self-Directed Continuing Education is also consistent with Knowles andragogical model (Knowles, 1985, pp. 86-91). The A.N.A. values C.E. as essential for competency and professional growth. It also believes that individual C.E. needs of nurses can be met by utilizing theories of self-directed adult learning.

The adult learner characteristics allow for distance learning to be an effective approach. Croft (1986, p.13) encourages and promotes research in the field of andragogy with special emphasis on distance delivery to raise the academic profile of course design.

Video teleconferencing, a form of distance delivery, provides nurses an opportunity to network, share, and develop new nursing skills, ideas, and trends since communication occurs between two or more locations during the broadcast. The speaker (teacher) or a panel can offer "live" two-way or one-way discussion. Participants in the studio audience can be involved in question and answer periods offered during or after course production. Participants at the reception site use a "talk back" system that permits dialogue with the teacher and learners in the studio for additional interaction regarding course content. Case studies can be a part of wraparound programming and offer assigned homework for both before and after the production, again promoting self-directed learning for participants.

Review of Literature

Adult Learning Theory in C.E. for Nurses

Although C.E. for nurses was provided prior to 1976, it, along with other adult learning activities, blossomed as a result of government legislation, the Mondale "Lifelong Learning Act" (Johnson, 1987, p. 36). This support was reflected in the literature as seen in Gross (1977, pp. 16-17) who promoted self-directed C.E. for nurses, and Betz (1984, p. 41) who encouraged researchers to collect and analyze adult participant data in order to improve C.E. for nurses.

In 1978, the A.N.A. published *Self-Directed Continuing Education in Nursing* and defined it in terms that should help nurses maintain competence and grow professionally. Knowles (1985, pp. 86-91) referred to this publication as a model congruent with andragogy. He viewed C.E. for nurses as a lifelong adult process that built upon and or modified previously acquired knowledge, skills, and attitudes. He perceived that the structure and content of C.E. had to be flexible in

order to meet the practical needs and career goals of the nursing professional. He viewed self-directed learning as an important and effective way to achieve this necessary flexibility. He emphasized the idea that individuals have different learning styles and learn at their own pace those things considered relevant and essential to them. Likewise, the adult educator is one who has some responsibility for helping adults to learn.

Jahns, M.T. Urbano, and R.C. Urbano (1986, pp. 9-10) described how domains of adult learning contribute to mandatory C.E. and its programming for nurses in Florida. The motivations of the target population studied (500 registered nurses [R.N.s]) to take C.E. include the following: (a) mandated requirements; (b) individual desire for personal growth and development; and (c) personal characteristics, such as self-confidence, need, fulfillment, and ambition.

Johnson's conceptual framework in C.E. for nurses (1987, pp. 32-36) applied the characteristics of adult learning theory. Her application (1987, pp. 32-34) regarded adult learning for nurses as a change or "shift, jump, transformation" that is necessary for personal and professional well being. In nursing, change occurs constantly because the profession is continuously modifying and adapting new procedures. Learning is seen as a change in behavior, insight, perception, or motivation, and offers a "continuum" whereby nurses acquire professional knowledge, competence, new skills, and personal growth.

Johnson (1987, pp. 32-36) defined C.E. for nurses as educational opportunities with emphasis on motivation and competence. When the nurse is motivated to learn, he or she may be more likely to want to learn or perceive its

professional relevance. Improved competence can occur with the opportunity to continue education and maintain clinical skills. The three components of the Johnson model were (a) motivation or perceived relevance, (b) competence or skill maintenance, and (c) prevention of obsolescence or the lack of motivation to change.

During the last decade, C.E. for nurses grew to include thousands of providers. Kuramoto (1985, p. 149) stated that the increase in C.E. offerings makes nurses aware of their need for continued professional growth and lifelong learning.

Jahns, M.T. Urbano, and R.C. Urbano (1986, p. 11-16) encouraged hospitals and educational nursing providers of C.E. to reach out and market competencies. Aiken (1984, p. 4) described C.E. nursing programs as small businesses that can offer quality programs to meet the needs of targeted groups.

The selection of relevant C.E. nursing topics involved the decision making process of the adult learner that meets the needs of each successive phase of life (Johnson, 1987, p. 32). Kuramoto (1985, p. 154) found that participation in C.E. for nurses is closely related to the learner's interest in or need to know a particular or advanced subject to upgrade skills.

Since nurses, in general, tend to participate in adult education as do those professionals with higher levels of educational attainment and income (Duquette, Painchaud, and Blais, 1988, p. 199), studies in nonparticipation are important in order to remove C.E. barriers. Research findings in Canada included cost and location barriers as reasons for nonparticipation in C.E. for nurses. Aiken's report (1984) of strategy planning in C.E. for nurses from Southern State University (S.S.U.), which included Nauright's needs assessment of

approximately 3000 nurses in Georgia (Aiken, 1984, pp. 31-34), found that cost and location were the greatest barriers for C.E. participation for over 65% of the 3000 nurses surveyed. Gaston, Pucci, and Goodwin's Kansas survey (1987, p. 40) reported similar cost and location barriers for C.E. nonparticipation. Parochka's random study (1985, p. 34) of nonparticipant nurses in Rockford, Illinois, showed cost as the greatest deterrent for C.E. participation. Clark and Cleveland (1984, p. 168) found that Washington state nurses do not travel to distant urban sites to attend C.E. offerings. Mackereth (1989, p. 778) in London, England, reported that shortage of staff, inadequate advance publicity, and lack of encouragement from management were additional reasons for nonparticipation in C.E. for nurses. Other studies report lack of relevance and poor quality of course offerings as deterrents to C.E. participation (Duquette, Painchaud, & Blaise, 1988, p. 200). Although C.E. is a mandatory nursing requirement in several states, Kuramoto found it had less influence in participation than improvement in social relations and social welfare skills, professional advancement and knowledge, relief from routine, and acquisition of credentials (1985, pp. 151-2).

Teleconferencing for Nurses

Meyer (1983, p. 73) found, from his 15 year study of nurses in Wisconsin, that audio teleconferencing was cost effective (\$5.33 per student contact hour). However, this approach did not make use of video teleconferencing.

Robinson (1988, p. 272) mentioned that teleconferencing, or distance learning, is the fastest growing area of education and training in the United Kingdom. This learning system is designed to remove the following categories of barriers: (a) physical related to location and class times; (b) educational related to course objectives and content; (c) individual related to lack of awareness; and

(d) financial related to fees, travel costs, and time away from work. Removal of these barriers seemed to improve the flow of communication and sense of community (p. 277).

The Kellogg Foundation sponsored a 3 year grant on nursing preceptorship at another California community college which culminated in a follow up national teleconference that was uplinked from a large Bay area city. The results from a post teleconference survey of 400 nurse educators and trainers indicated that: (a) the information could be applied, (b) the cost was low, (c) the audience would enroll again, and (d) the audience recommended attendance to members of their staffs (Waters, 1985, p. 7).

It was learned from the above teleconference experiences that an on-site nursing education coordinator at receiving sites is usually the person responsible for technical reception and registering members of the audience. Hamilton's (1989) graduate study pinpointed the wraparound programming roles and responsibilities of the downlink (on-site) and uplink teleconference coordinators. These coordinators jointly plan self-directed learning activities to help a teleconference become more applicable to a local situation.

The learners (audience) at the reception site can be as close as the same school of nursing, or as far away as a neighboring state or remote country (Billings et al., 1989, p. 12). Even if geographically distant, Limon, Spencer, and Henderson (1985, p. 313) proposed that this new dynamic medium will unite nurses by common interests and in the exchange of ideas.

Based upon the findings of the above adult learning literature and the community college's early video teleconference experiences, it became evident to the researcher that audience needs had to be assessed in depth and by a more

reliable means for the planning of future broadcasts. The college's T.V. center tried to consider time and cost factors in the planning and marketing phases of nursing video teleconference program design to make it attractive to nurses. The study sample consisted of on-site nursing education coordinators in community colleges and 4 year universities and those hospitals which could receive the T.V. center's broadcast frequency. The center also tried to deliver programs that were relevant to the perceived needs and interests of the general audience. The first nursing broadcast was in January, 1990, on hepatitis. The second, in April, 1990, was on critical care nursing. The third, in October, 1990, was on the use of computers in nursing. Enrollment for the third conference was double that of the first two. It was concluded that this third video teleconference was a topic more current and relevant to nursing education.

Needs Assessment

Needs assessment is the initial and most critical part in planning or designing any health program. The literature (Kemp, 1985, pp. 27-29; Betz, 1984, p. 39; Isaac & Michael, 1985, pp. 19-26) promotes this procedure as the first step in any instructional design process. The A.N.A. believes that C.E. offerings for nurses must be continually assessed in order to disseminate and implement both the current national needs and trends of the nursing population as well as maintain standards for nursing practice.

Various needs assessment processes in program design were examined. The Stanhope and Lancaster (1988, p. 214) needs assessment is a six-step process: (a) identify the client population, (b) identify the needs to be met, (c) specify the size and distribution of the client population, (d) set boundaries for the client group, (e) clarify the perspectives on the program target, and (f) identify the

program resources. The forementioned process was found to be more comprehensive than the Knox need appraisal system. The Knox System, named for its developer, Alan Knox, adult learning researcher, was designed to discover the educational needs of nursing participants. This system identified the gaps in knowledge, competence, and commitment, and made curricular decisions to meet these needs. This four step process involves: (a) defining the target population, (b) collecting data, (c) analysis of data, and (d) utilization of data collected (Betz, 1984, pp. 39-40).

The needs assessment methods were then evaluated. A 3 year grant in Washington allowed Kuramoto and Wyman (1986) to research the course needs of nurses using the taped video teleconferencing approach in their program design. Adult learning theory principles were applied in course development (p. 9).

Henretta, McClellan, and Swanson (1984) described a written needs assessment of more than 5000 professional nurses of diverse backgrounds in New York, where C.E. is mandatory. The approach included: (a) a data base survey, (b) assessment of learning needs, (c) a learning needs survey, (d) marketing strategies, and (e) costs. This was a federally funded project, but printing costs, mailing costs, and return postage were absorbed by the University of Rochester School of Nursing.

Hash, Donlea, and Walljasper's (1985) survey used a telephone interview technique to assess C.E. nursing needs. The forementioned and other researchers agreed that needs assessment is also a valuable marketing tool that seeks to identify consumer's wants and needs (Hash et al., p. 126; Bond & Waltz, 1982, p. 1).

Summary

This chapter described nurses as a select group of adult learners motivated toward C.E. topics relevant to their professional needs and competencies.

Knowles' adult learning theory formed the basis for the conceptual framework.

Applications of adult learning theory to nursing C.E. were explored.

Investigations were made in teleconferencing and needs assessment to determine what future quality programs could be selected.

Chapter 3

METHODOLOGY

This chapter contains the description of the research design, setting and sample, the instrument, data collection, and analysis procedures. Approval to conduct the study is included. A comparison was made between the original survey and the replication used in this study. The sample and data collection instruments are described and explained.

Design

This study used a nonexperimental telephone survey designed to explore the perceived nursing topics of interest that could be addressed by video teleconferencing. This is the broadest category of experimental design (LoBiondo-Wood & Haber, 1986, p. 130) and is used in this study for projecting the needs and interests of future video teleconference programs. On-site coordinators ranked each of 53 topics on a Likert Scale of one (least interest) to five (most interest). The perceived three highest topic areas were analyzed to determine participants' preferred travel distance in attending a video teleconference and on-site enrollment in C.E. In addition, on-site coordinators' perceptions of the three highest topic areas were compared based upon their age, ethnicity, sex, and employment position.

Setting and Sample

This study sample was obtained from a group of United States and Canadian on-site nursing education coordinators at receiving sites who had locally organized and viewed a national community college video teleconference on October 18, 1990. These respondents were from either a community college, university, or hospital setting. Although the sample in this study was composed

of on-site coordinators, it was a random selection from the college's T.V. center's data base. This selection process allowed the sample to be representative of the nursing population of both that agency and geographic area. The survey attempted to answer what on-site coordinators perceived as the needs and interests of all participants at the broadcast. These coordinators had no past association with the researcher.

Human Subjects Approval

The researcher requested approval from the Human Subjects Institutional Review Board at San Jose State University to conduct this study. The human subjects approval is included in Appendix A.

Instruments

Original Study

Appendix B includes a copy of the standardized telephone survey used by Virginia Hash, PhD, associate dean, University Continuing Education and Special Programs, University of Northern Iowa, Cedar Falls, Iowa in 1984. She used it to interview 400 northern Iowa nurses. Although other demographic questions were asked, the only purpose of her survey was to determine the ranking of C.E. topics in various content categories. Topic rankings were grouped within content categories. Respondents were also asked questions about preferred travel distance, affordable cost, on-site C.E. participation, age, ethnicity, sex, and employment position (Hash et al., 1985, pp. 126-128). LoBiondo-Wood and Haber (1986, pp. 160-163) indicate that a telephone survey will provide a higher rate of return than a mailed survey. Since Hash's survey established content validity, it was used as a model for the present study.

Present Study

In order to pursue a telephone survey of on-site nursing education coordinators, the researcher wrote a letter requesting permission from the college's associate dean of telecommunications, giving her permission to use the T.V. center's on-site nursing coordinators' data base. This request for permission is found in Appendix C. The letter of approval from the dean follows in Appendix D.

The research design used in the present study was a replication of Hash's telephone survey. The researcher obtained permission to use the Hash, Donlea, and Walljasper survey (1985) for this study. The permission letter is in Appendix E.

The researcher then obtained verbal permission from the author of the original survey to modify it (Virginia Hash, personal communication, Cedar Falls, Iowa, November, 1990). Her survey was modified to include a Likert scale for ranking each topic area. Additions were made within the following categories: (a) ethics within the human relations section, (b) space to include "other" topics within the nursing management section, and (c) oncology and hospice topics included in the disease section. After its modification, the survey was pilot tested and refined by a group of experts in nursing C.E. to establish current content validity.

Appendix F shows the researcher's final copy of the telephone survey used for on-site coordinators in this study. The written portion of the researcher's telephone survey had a description of topics of interest that was divided into various content categories. Each topic ranked level of interest on a scale of one to five, the former number showing the least (or one point), and the

latter, the most amount (or five points) of interest. On-site coordinators also responded to questions related to participants' preferred travel distance for attending a video teleconference and enrollment in C.E. In addition, on-site coordinators' responded to questions related to their age, ethnicity, sex, and employment position.

The description of topics of interest was divided into various content categories. Survey questions 1 through 9 and 52 showed the level of interest in the human relations section. This area included: (a) ethics as a general topic, (b) nursing ethics, (c) medical ethics, and (d) legal ethics. Also included were: (a) stress management, (b) assertiveness training, (c) human relations skills, (d) communication skills, (e) coping with grief, (f) death and dying, and (g) hospice.

Survey questions 10 through 13 showed the level of interest in the legal aspects of nursing section. Topics included: (a) clinical nursing and the law, (b) nurse management and the law, (c) legalities of documentation, and (d) malpractice liability.

Survey questions 14 through 17 showed the level of interest in the nursing management section. The topics included: (a) basic management, (b) change process management, and (c) management by objectives.

Survey questions 18 through 20 showed the level of interest in the pharmacology section. Topics included: (a) actions and interactions of drugs, (b) chemotherapeutic agents, and (c) pharmacology and the elderly.

Survey questions 21 through 26 showed the level of interest in the critical care nursing section. The topics included: (a) coronary care, (b) respiratory,

(c) neurology, (d) renal/hemodialysis, (e) hemodynamics, and (f) emergency care.

Survey questions 27 through 40 and question 53 showed the level of interest in general topic section. Topics included: (a) pain, (b) rehabilitation concepts, (c) nursing process, (d) nursing diagnosis, (e) nursing care plans, (f) blood gases, (g) body fluids and electrolytes, (h) infection control, (i) blood therapy and blood components, (j) genetics, (k) nutrition, (l) nursing trends and issues, (m) alcohol and drug abuse, (n) physical assessment, and (o) the State Board Review.

Survey questions 41 through 51 showed the level of interest in the disease sections. The topics included: (a) cardiovascular; (b) digestive; (c) endocrine; (d) eye, ear, nose, and throat; (e) gynecology; (f) musculoskeletal; (g) neurological; (h) respiratory; (i) skin; (j) urinary; and (k) oncology.

Data Collection

In November, 1990, the researcher mailed a letter to 100 on-site nursing education coordinators on the community college's T.V. center letterhead to thank them for their participation in the college's October, 1990 video teleconference *Computers and Nursing* (Appendix G). The researcher also informed these on-site coordinators that they could be randomly selected to participate in a forthcoming survey to assist in the determination of future pertinent and timely topics for teleconferences.

The researcher then alphabetized the list of 100 on-site nursing education coordinators by states and numbered them from 1 through 100. She then contacted the college's coordinator of institutional research to get a list of numbers selected from a randomizer. This list is in Appendix H.

On January 14, 1991, the 35 randomly selected nursing education on-site coordinators received a letter inviting them to be part of the researcher's survey. The letter confirming random selection (Appendix I) along with the written portion of the researcher's telephone survey was mailed to each of the 35 on-site coordinators on January 21, 1991, informing them of their selection as survey respondents and that they would be contacted by telephone in a few weeks to verbally respond to the questions in the written portion of the telephone survey. During the subsequent interviews, the researcher transcribed all the telephone survey information onto another copy of the written survey which could be used for future reference. After the interview, the researcher asked the on-site coordinators to return their written portion of the survey so answers could be coded with a number two pencil on a scantron, which can be calculated on an IBM computer. The telephone interview and written survey both contained the same structured questions with Likert responses and interview questions.

Out of 35 on-site coordinators, 20 follow up telephone interviews were conducted during February and March, 1991. Since 15 remaining coordinators were unable to be reached directly by phone during that time, verbal messages were left at the agency to return the written portion of the survey.

A second mailing of the survey and cover letter was done on March, 1991 (Appendix J), to remind the remaining 15 on-site coordinators to return the survey to the researcher. After more telephoning and written correspondence, all 35 surveys were completed and returned by May, 1991. Since there was no difference in the responses between the telephone and the written surveys, all information was consolidated with the written surveys for this study.

Analysis Procedures

Appendix K shows how all points from the researcher's survey for question 1 through 53 were totaled and then divided by the total number of responses to get the mean point value (or ranking). Column one indicates the survey question. Column two shows the topic area. Columns three through seven indicate the on-site coordinators' level of interest in each topic. Since it was not always possible to get all 35 respondents to answer all questions, column eight gives the actual number of on-site coordinators responses to each question. Column nine gives the total number of points of interest for each topic on a scale of one to five, the former number showing the least (or one point), and the latter, the most amount (or five points) of interest. Column ten gives the mean point value for all topic areas. This calculation is done by: (a) adding the total points in column nine (from columns three through seven), and (b) then dividing this value by the total number of responses in column eight.

After ranking the topics in mean point value, the researcher further compared the perceived highest topic areas. Chi-square (χ^2) analysis was made at the .05 level of significance ($p < .05$) to determine if there was any difference in the perceived three highest topic areas related to participants' preferred travel distance in attending a video teleconference and on-site enrollment in C.E. Further analysis was done to determine how the perceived three highest topic areas relate to on-site coordinators' age, ethnicity, sex, and employment position. Thus, the exploratory design was aimed at gathering both nominal and comparative data about video teleconference course offerings. An evaluation of the results can be used as a means for gathering data to make a decision of what video teleconference programs can be made in the future.

Chapter 4

FINDINGS AND INTERPRETATION

This chapter summarizes the findings of the survey from nursing education coordinators at 35 teleconference sites including hospitals, colleges, and universities in the United States and Canada. The results are described in three areas. The first area ranked the 12 highest perceived C.E. nursing topics of interest for participants that could be addressed by video teleconferencing. The second area used the chi-square method at the .05 level to compare the perceived three highest topic areas of interest related to participants' preferred travel distance and on-site C.E. enrollment. In addition, the chi-square method at the .05 level was used to compare the perceived three highest topic areas of interest related to on-site coordinators' age and their employment position. Finally, frequency comparisons of the participants' perceived three highest topic areas of interest were made as they related to on-site coordinators' ethnicity and sex.

Analysis of Topic Interest Areas

Table 1 ranks the mean point value of all the topics from the most to the least value. Mean point value for the top 12 ranged from 3.91 to 3.49. The sixth, seventh, and tenth places had two topics with the same number of responses. The lowest mean point value was 2.49.

Human relations skills, nursing ethics, and assertiveness training ranked first (3.91), second (3.83), and tenth (3.51), respectively, and were from the human relations section (survey questions 7 and 2). Dealing with people is a continuous challenge and requires up to date psychosocial competencies.

Table 1

Nursing Video Conference Topic Survey In Rank Order of Interest*

<u>Question</u>	<u>Topic</u>	<u>Mean Point Value</u>
7	Human Relation Skills	3.91
2	Nursing Ethics	3.83
40	Physical Assessment	3.67
11	Nurse Mgmt/Law	3.66
10	Clinical Nursing/Law	3.62
38	Nursing Trends/Issues	3.60
20	Pharmacology and Elderly	3.60
15	Change Process Mgmt	3.56
52	Hospice	3.56
13	Malpractice Liability	3.54
51	Oncology	3.53
6	Assert. Techniques	3.51
12	Legalities of documentation	3.51
22	Respiratory	3.50
23	Neuro	3.49
41	Cardiovascular	3.49
21	Coronary Care	3.49
25	Hemodynamics	3.49
18	Action/interactions Drugs	3.43
39	Alcohol/drug Abuse	3.40
5	Stress Management	3.38
26	Emergency Care	3.37
8	Communication Skills	3.34
48	Respiratory	3.34
47	Neurological	3.34
24	Renal/Hemodialysis	3.31
42	Digestive	3.29
19	Chemotherapeutic Agents	3.29
46	Musculoskeletal	3.29
43	Endocrine	3.29
49	Skin	3.26
4	Legal Ethics	3.26
9	Coping with Grief, etc.	3.26
45	Gynecology	3.26
30	Nursing Diagnosis	3.23
31	Nursing Care Plans	3.20
33	Body Fluids/electrolytes	3.20
53	State Board Review	3.18
34	Infection Control	3.17
1	Ethics	3.15
50	Urinary	3.12
29	Nursing Process	3.09
27	Pain	3.09
16	Mgmt by Objectives	3.06
3	Medical Ethics	3.03
17	Other	3.00
44	Eye, Ear, Nose/throat	2.97
32	Blood Gases	2.97
28	Rehabilitation Concepts	2.97
37	Nutrition	2.97
14	Basic Management	2.97
35	Blood Therapy/components	2.80
36	Genetics	2.49

*Range of Scores = 1-5.

Human relations skills and nursing ethics fill renewal gaps in continuing education that may not be included on an in-depth basis for both academic and clinical settings. Nursing ethics could be of high interest because of its current relevancy and need with the very sick and old patients now seen in nursing practice. Topics in assertiveness techniques can offer answers in achieving more effective communication.

The disease section had the seventh (3.56) and ninth (3.53) topics of interest; hospice (question 52) and oncology (question 51). The increasing awareness in the process of aging and dying, the issues related to quality of life and the "right to die," as well as the impact of Medicare/Medicaid, may be reasons for these choices (Rhymes, 1990, pp. 369-374). According to the 1990 National Hospice Census, there were some 1500 hospice programs which served 200,000 patients (Brower, 1991, p. 39). There are over 12,000 nurses who are members of the Oncology Nursing Society (O.N.S.). This organization provides many educational programs, handled by a network of experts who could tap into video teleconferencing and create greater opportunity for team interaction in both the hospice and oncology topics.

Two topics of interest from the general topic section rated third (3.67) and sixth (3.60); physical assessment and nursing trends and issues (questions 40 and 38, respectively). Physical assessment, part of the nursing process, helps the clinician or educator gather data for the purpose of identifying actual and or potential health problems. Nursing trends and issues change at such a fast pace on a local and national level, these topics may offer the adult learner a chance to network ideas in a collaborative manner (Perry, 1989, p. 92).

The legal aspects of nursing section had three topics of interest rated fourth (3.66), fifth (3.62), eighth (3.54), and tenth (3.51). These topics were nurse management and the law, clinical nursing and the law, malpractice liability, and legalities of documentation (questions 11, 10, 13, and 12). Legal protection in the clinical as well as the academic areas seems vitally important in regard to legal directives, policies, procedures, and malpractice (Cushing, 1990, pp. 29-30).

Pharmacology and the elderly (question 20), from the pharmacology section, ranked sixth (3.60). Drug misuse, abuse, or overuse continues to be a problem with this older age group. The problems that arise from the synergistic, antagonistic, additive, and negating effects of combined drug use pose a constant need for education (Montamat et al., 1989, p. 303).

The topic that showed the seventh (3.56) level of interest was in the nursing management section and it was change process management (question 15). Managers must be able to expand roles and develop ways to motivate their staff so they will adapt to changes in the health care delivery system, in new computerized technologies for patient care, and in the changing types of patients in the health care system (Black, 1988, p. 10; Perry, 1989, p. 92; O'Grady, 1989, pp. 350-351).

Five of the six topics from the critical care nursing section appeared as the eleventh (3.50) and twelfth (3.49) ranked topics in the survey. Respiratory at 3.50 was followed by neurology, cardiovascular, coronary care, and hemodynamics at 3.49. Patient acuity is moving into the forefront of nursing care. More than 20% of the patients in the acute care setting now fall into this

category. In the future, we may see more of a need for this education both in the clinical and academic field (Black, 1988, p. 10).

Although the State Board Review topic ranked eighteenth at 3.18, it showed 14 with little or no interest and 20 with greater interest. This topic may be worth pursuing for those with interest since it would be an asset toward providing collaborative learning.

The two lowest perceived topic areas were (a) blood therapy/ components at 2.80, and (b) genetics at 2.49 mean point value. Blood therapy may be of little shared interest to nurses. Genetics may have more theoretical appeal to those nurses specifically involved in research.

Analysis Related to Age

The study determined if there was any significant difference in perceived topic ranking between on-site coordinators (respondents) who were under and those who were over 40 years of age. Those nurses over 40 years of age may perceive different C.E. needs than those under 40. Table 2 shows the chi-square analysis related to on-site coordinators' age (question 69) and their perceived level of interest in the three highest ranked (human relations skills, nursing ethics, and physical assessment) topic areas. In each of the three areas, approximately 80% of these on-site coordinators were over 40 years of age. The preponderance of nursing coordinators over 40 is an indication of our aging professional community, particularly in positions of responsibility.

Of the total number of perceived responses to the human relations skills topic area ($N = 31$), seven were under and 24 were over the age of 40. The chi-square test was .40, but has to be 7.81 to be significant at $p < .05$

Table 2

Chi-Square Test of the Three Highest Ranked Topics by Age
(Under & Over 40)

Human Relations Skills

Interest Level	None	Little	Some	More	Most
Under Age 40	0	0	2	3	2
Over Age 40	0	1	8	9	6
Total	0	1	10	12	8

Note. $\chi^2 (3, N = 31) = .40 (p > .05)$

Nursing Ethics

Interest Level	None	Little	Some	More	Most
Under Age 40	1	0	3	1	2
Over Age 40	0	2	4	10	8
Total	1	2	7	11	10

Note. $\chi^2 (4, N = 31) = 6.84 (p > .05)$

Physical Assessment

Interest Level	None	Little	Some	More	Most
Under Age 40	1	0	3	1	2
Over Age 40	2	2	4	5	9
Total	3	2	7	6	11

Note. $\chi^2 (4, N = 29) = 2.51 (p > .05)$

level for 3 degrees of freedom. Of the total number of perceived responses to the nursing ethics topic area ($N = 31$), seven were under and 24 were over the age of 40. The chi-square test was 6.84, but has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Of the total number of perceived responses to the physical assessment topic ($N = 29$), seven were under and 22 were over the age of 40. The chi-square test was 2.51, but has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Although age was not a significant factor in the perceived three highest topic areas, it can be noted that the chi-square test was 6.84 for nursing ethics. Of the on-site coordinators under age 40 ($N = 7$), three (or approximately 40%) perceived the topic with more or most interest for participants. In those over age 40 ($N = 24$), 18 (or approximately 75%) perceived the topic with more or most interest.

Analysis of Preferred Travel Distance

The researcher wanted to investigate the preferred travel distance that on-site coordinators perceived as feasible for participants to attend video teleconferences. Review of the literature emphasized that most nurses prefer to attend topics on C.E. for nursing if travel time is decreased. Table 3 displays a frequency analysis of participants' preferred travel distance to attend a video teleconference (question 59). Of the $N = 31$, 23 (or 75%) said that participants only wanted to travel in their local community or county and only eight (or 25%) said that participants would travel somewhere in their state and no one would go outside the state to attend the production. This perceived travel distance preference is similar to nurses' preference for C.E. topics in

Table 3
Frequency Analysis of Travel Distance

	Number	Percent
Local Community	13	42
Own County	10	33
Somewhere in State	8	25
Anywhere in State	0	0
<u>Total</u>	31	100

general, and reinforces the convenience factor of video teleconferencing.

The study also determined if there was any significant relationship between the perceived travel preferences of the participants with their perceived three highest ranked topic areas. Some topics may have significantly more travel appeal than others. Table 4 shows the chi-square analysis related to perceived participants' preferred travel distance (question 59) and their level of interest in the perceived three highest (human relations skills, nursing ethics, and physical assessment) topic areas.

In the total number of responses in the human relations skills topic area ($N = 31$), 22 preferred to travel in their local community or own county and nine would go somewhere or anywhere in the state. The chi-square test was 3.98, but has to be 7.81 to be significant at $p < .05$ level for 3 degrees of freedom.

In the total number of responses in the nursing ethics topic area ($N = 31$), 22 preferred to travel in their local community or own county and nine preferred to go somewhere or anywhere in the state. The chi-square test was 2.53, and has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Table 4

Chi-Square Test of Three Highest Ranked Topics by Travel Distance

<u>Human Relations Skills</u>					
Interest Level	None	Little	Some	More	Most
Local Comm/Co.	0	0	10	6	6
Within State	0	1	2	4	2
Total	0	1	12	10	8

Note. $\chi^2 (3, N = 31) = 3.98 (p > .05)$

<u>Nursing Ethics</u>					
Interest Level	None	Little	Some	More	Most
Local Comm/Co.	1	2	3	10	6
Within State	0	2	2	2	3
Total	1	4	5	12	9

Note. $\chi^2 (4, N = 31) = 2.53 (p > .05)$

<u>Physical Assessment</u>					
Interest Level	None	Little	Some	More	Most
Local Comm/Co.	2	1	6	5	7
Within State	2	0	1	1	5
Total	4	1	7	6	12

Note. $\chi^2 (4, N = 30) = 3.98 (p > .05)$

In the total number of responses in the physical assessment topic area ($N = 31$), 21 preferred to travel in their local community or own county and nine would go somewhere or anywhere in the state. The chi-square test was 3.98, but has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Although perceived travel distance was not a significant factor in the perceived three highest ranked topics, it can be noted that the chi-square test was 3.98 for both human relations skills with 3 degrees of freedom and for physical assessment with 4 degrees of freedom. In the human relations skills and physical assessment topic areas ($N = 31$), each had 12 on-site coordinators who perceived more or most interest for participants to attend video teleconferences in their local community or own county. In addition to these 12 on-site coordinators, six more perceived that participants had more or most interest in attending a video teleconference somewhere or anywhere in the state for both of these topic areas. This may indicate a willingness on the part of professionals to travel a greater distance for high level interest topics.

Analysis of On-Site C.E. for Nurses

The researcher also investigated whether C.E. was given on-site during the video teleconference (question 65). Of the responses from on-site coordinators ($N = 30$), 15 (or 50%) gave C.E. on-site during the broadcast and 15 (or 50%) did not. Although this sample was not representative of the entire 50 states, it is a significant finding in that it is above the national average, since 12 (or 24%) of the 50 states now have mandatory C.E. Since this study indicated a strong interest in C.E., video teleconferencing may be a vehicle of some potential delivering it. Furthermore, if the on-site

coordinator charges nurse participants a C.E. fee, the cost of the downlink to the receiving site could be offset.

The study also determined if there was any significant relationship between participants' three highest ranked topics as perceived by coordinators (respondents) who gave C.E. on-site as opposed to those who did not. These findings may provide information on what future video teleconference programs would be useful for C.E. Table 5 shows the chi-square analysis of on-site C.E. enrollment (question 65) related to participants' perceived three highest topic areas (human relations skills, nursing ethics, and physical assessment). On-site coordinators were grouped into those who gave C.E. and those who did not.

Of the responses to the human relations skills topic area ($N = 29$), 14 gave C.E. on-site and 15 did not. The chi-square test was .91, but has to be 5.99 to be significant at $p < .05$ level for 2 degrees of freedom.

Of the responses to the nursing ethics topic area ($N = 29$), 14 gave C.E. on-site and 15 did not. The chi-square test was 2.70, but has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Of the responses to the physical assessment topic area ($N = 27$), 12 gave C.E. on-site and 15 did not. The chi-square test was 2.24, but has to be 9.49 to be significant at $p < .05$ level for 4 degrees of freedom.

Although C.E. was not a significant factor in the perceived three highest topic areas, it can be noted that the chi-square test was .91 for the human relations skills topic. Since none of the 29 on-site coordinators ranked human relations skills with little or no interest, this video teleconference topic would be very appropriate for nursing C.E.

Table 5

Chi-Square of the Three Highest Ranked Topics by C.E. ParticipationHuman Relations Skills

Interest Level	None	Little	Some	More	Most
Yes	0	0	4	7	3
No	0	0	5	5	5
Total	0	0	9	12	8

Note. $\chi^2 (2, N = 29) = .91 (p > .05)$

Nursing Ethics

Interest Level	None	Little	Some	More	Most
Yes	0	1	3	6	4
No	1	2	3	3	6
Total	1	3	6	9	10

Note. $\chi^2 (4, N = 29) = 2.70 (p > .05)$

Physical Assessment

Interest Level	None	Little	Some	More	Most
Yes	2	0	2	4	4
No	2	2	2	3	6
Total	4	2	4	7	10

Note. $\chi^2 (4, N = 27) = 2.24 (p > .05)$

Analysis Related to Ethnicity

Of the respondents ($N = 35$), 33 (or approximately 94%) were white and only two (or approximately 6%) were nonwhite (black) (question 70). Since the nonwhite category was underrepresented, and cultural differences may affect perceived participant topic ranking, the researcher compared the interest level of each of these two respondents in the perceived three highest topic areas (human relations skills, nursing ethics, and physical assessment). Both human relations and nursing ethics topic areas were ranked with some or more interest, while physical assessment as more and most interest. One of the nonwhite respondents was a director and the other was an educator.

Analysis Related to Sex

Of the respondents ($N = 35$), 34 (or approximately 97%) were female and only one (or 3%) was male (question 71). Since the male category was underrepresented, and gender differences may affect perceived topic ranking, the researcher compared the level of interest in the perceived three highest topic areas (human relations skills, nursing ethics, and physical assessment) for the male on-site coordinator. Nursing ethics and physical assessment were ranked as more interest areas, while human relations skills had some interest. This male respondent held a job position in education.

Analysis Related to Employment Position

Table 6 shows the frequency analysis on the perceived level of interest in the perceived three highest topic areas (human relations skills, nursing ethics, and physical assessment) related to on-site coordinators' employment position (question 75). Since perceived topic interest may vary among nursing employment positions, the study determined if there was any

Table 6

Frequency Analysis of Three Highest Ranked Topics by Employment Position

<u>Human Relations Skills</u>					
Interest Level	None	Little	Some	More	Most
Administration	0	0	4	2	0
Education	0	0	3	3	3
Director	0	1	2	1	3
Faculty	0	0	2	5	1
Total	0	1	11	11	7

<u>Nursing Ethics</u>					
Administration	0	2	1	3	0
Education	1	0	1	4	3
Director	0	1	1	2	3
Faculty	0	1	2	3	2
Total	1	4	5	12	8

<u>Physical Assessment</u>					
Administration	3	0	1	1	0
Education	1	0	0	4	3
Director	0	0	0	2	5
Faculty	0	1	2	0	5
Total	4	1	3	7	13

significant relationship between on-site coordinators' (respondents') employment position and highest ranked topics. Nursing administrator, educator, director, and faculty were the four categories chosen.

Of the total number of responses to the human relations topic ($N = 30$), only one on-site coordinator ranked it with little or no interest. Thus, human relations skills were perceived with some, more, or most interest by 29 (or approximately 95%) of the on-site coordinators regardless of employment position.

Of the total number of responses to the nursing ethics topic ($N = 30$), 24 were educators, directors, or faculty, and six were administrators. Eight (or 27%) of the educators, directors, or faculty perceived most interest in the topic, while no administrators did. Thus, nursing ethics was not perceived as a high interest level video teleconference topic by administrators.

Of the total number of responses to the physical assessment topic ($N = 28$), 23 were educators, directors, or faculty, and five were administrators. There were 21 (91%) educators, directors, or faculty who perceived greater interest in the topic area while no administrators did. Furthermore, three of the five administrators perceived no interest in the topic area. Administrators may not perceive that participants are interested in this topic area, since administrators do not integrate physical assessment as a professional part of their job description, whereas directors, educators, and faculty find it important and necessary. This finding also indicates that nurses may have more interest in their particular area of specialty rather than the needs of the total nursing population.

Chapter 5

DISCUSSION

Summary

This study provided information on the perceived interests of nursing participants in 53 topic areas. The preliminary data will assist in the planning of future nursing video teleconference programs in the United States and Canada. The sample consisted of a randomized list of 35 on-site nursing coordinators who described the perceived C.E. needs of their agency and region. This sample represented 35% of the 100 on-site nursing coordinators from the college's T.V. center data base.

Of the 53 topics that were ranked in order by their mean point value, the perceived three highest topic areas of interest were human relations skills, nursing ethics, and physical assessment. The perceived preferences by 23 (or 75%) of the total respondents ($N = 31$) was that participants preferred to attend a video teleconference either in their local community or own county rather than go elsewhere in the state.

Differences in perception were found when comparing perceived interest in the third ranked topic, physical assessment, among responses from nursing administrators, educators, directors, and faculty. Directors, educators, and faculty perceive more interest in physical assessment than administrators, which may indicate that nurses may have more interest in their particular area of specialty rather than the needs of the total nursing population.

Conclusions

The statistical data revealed the following:

1. Since human relations skills and nursing ethics are perceived as the two highest participant topics, there may be more value in broadcast topics that would be psychosocial rather than pathophysiological. Perhaps the interactive component in video teleconferencing makes this element more appealing.
2. Participants prefer to attend a video teleconference either in their local community or own county rather than go elsewhere in the state. This finding supports previous literature and is helpful in the planning and marketing of future broadcasts to prospective on-site nursing coordinators. It can, therefore, be concluded that teleconferencing may make educational opportunities more accessible to learners who prefer to remain in their own communities.
3. On-site coordinators' responses of perceived participants' interest vary widely related to their positions as nursing administrators, educators, directors, and faculty. Such a finding is not surprising since employment position often influences one's outlook in regard to the needs of the profession. Despite this finding, it does not negate the overall conclusion that the participants as adult learners are more motivated to C.E. topics that are particularly related to their areas of expertise.

Scope and Limitations

Although this was a study based upon response of on-site nursing education coordinators in the United States and Canada, bias could have been introduced in the study since these respondents had already expressed interest in nursing teleconferencing. The survey contained structured questions with a Likert scale but also permitted respondents' observations through an interview

technique. It was limited to a random selection of a sample from a group of 100 on-site nursing coordinators listed on the T.V. center's data base. A complete list of all national on-site nursing coordinators was not available.

Approximately 97% ($n = 34$) of the respondents were female, and only 3% ($n = 1$) were male. Approximately 94% ($n = 33$) were white and only 6% ($n = 2$) were nonwhite.

On-site coordinators' professional areas of interest may influence personal bias. For example, nursing administrators did not perceive participant interest in the physical assessment topic. This perception may occur since administrators do not have to practice this skill in their current job position and, therefore, show little or no interest in the topic area.

The researcher did not ask any on-site coordinators about their nursing specialties during either the verbal or written portion of the survey. Again, nursing specialty may indicate motivation or perceived interest in topic areas.

The survey was exploratory and only generalizations can be made about perceived participants' video teleconference nursing topic needs. Since the researcher did not collect any information from the participants attending the broadcast, none of their interests are known or ranked through the perceptions of the on-site nursing coordinators.

Of the 35 on-site nursing coordinators in this study, 20 gave a self-report (a telephone interview) and completed a written survey which may not have provided as accurate and complete a response as face to face interaction. The other 15 coordinators only mailed back the written portion of the survey, which did not change any of the answers, but precluded any discussion on the telephone. This study made no attempt to compare the differences that could

occur within the 15 respondents who did not complete the telephone interview, since no noticeable differences occurred between replies of the 20 respondents who were interviewed by telephone and those who mailed back the written portion of the survey. These returned surveys added validity to the study.

Recommendations

This study identified several areas which need further investigation. According to the results, conclusions, and limitations of the study, there are several recommendations for those planning to conduct a national nursing survey for future video teleconferences.

1. Replication of this survey with structured questions and interview questions that rank the level of interest on the interactive components of video teleconferencing.
2. The written portion of the survey can be sent to each on-site nursing coordinator before the time of a broadcast with a reminder that he or she may be selected to complete this survey. This procedure would be in place at the time of the broadcast, so a "live" explanation about the written survey and follow up random telephone survey could be made to the receiving sites.
3. Replication of this survey with additional questions in the telephone interview that allow further explanations regarding level of interest in topic areas.
4. All on-site coordinators can be involved in the written survey and follow up telephone survey and be asked to respond as part of their participation in the video teleconference.
5. A copy of the written survey can also be given to all participants at the video teleconference to provide insight to their needs and interests.

6. Topic interests could be selected, coded, and ranked by nursing job position, nursing specialty, or professional area of interest.
7. A larger pool of male and nonwhite respondents would provide a more diverse result of knowledge needs of C.E. courses.
8. Since C.E. for nurses is a necessary area to update and improve both skills and competencies as well as facilitate promotional opportunities, video conferencing may be the future vehicle to help them achieve their goals. Furthermore, well planned nursing broadcasts help to insure the necessary control in providing quality C.E. programming.

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APPENDIX A
Human Subjects Approval

A campus of The California State University

Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

To: Myra Sternlieb, Nursing
6920 Westmoor Way
San Jose, CA 95129

From: Charles R. Bolz
Office of Graduate Studies and Research

Date: November 12, 1990

A handwritten signature in cursive script that reads 'Charles R. Bolz'.

The Human Subjects Institutional Review Board has approved your request to use human subjects in the study entitled:

"On-Site Nursing Coordinators' Needs Assessment
for the Selection of National Nursing
Teleconferences"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Serena Stanford immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that each subject needs to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact Dr. Stanford or me at (408) 924-2480.

cc: Emilie Musci, Ph.D

APPENDIX B

Copy of Standardized Telephone Survey

NURSING EDUCATIONAL NEEDS SURVEY

Developed by

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1. To start with, let's assume for a moment that you had an opportunity to attend a nursing education workshop in which a variety of topics were offered. I'm going to read you a list of possible topics and as I read the list, please tell me if you think you would be interested in attending a session on the topic I mention. Okay? Let's start with the human relations area. In this category the topics are (READ LIST. CHECK (✓) IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, SAY:) You said . . . (READ TOPICS CHECKED). Which one of these would be your first choice? (CODE "1" IN RANK COLUMN OPPOSITE CHECK-MARK. IF MORE THAN TWO TOPICS CHECKED, SAY:) And which one would be your second choice? (CODE "2" IN RANK COLUMN OPPOSITE CHECK-MARK. CONTINUE THIS RANKING PROCESS FOR ALL TOPICS CHECKED.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
<u>Stress management</u> (such as learning how to cope with discouragement, resentment, anger, and the like)	_____	_____ (5)
<u>Burnout syndrome</u>	_____	_____ (6)
<u>Assertiveness techniques</u> (such as learning how to stand up for your own rights in a firm, effective and appropriate way)	_____	_____ (7)
<u>Human relation skills</u> (such as working with different kinds of people)	_____	_____ (8)
<u>Communication skills</u> (such as interviewing and taking histories)	_____	_____ (9)
<u>Coping with grief, death and dying</u>	_____	_____ (10)
<u>The nurse's role in helping patients whose medical condition affects their human sexuality.</u>	_____	_____ (11)

2. The next area is legal aspects of nursing. The topics are . . . (READ LIST. CHECK IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, REPEAT RANKING PROCESS AS ABOVE.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
Clinical nursing and the law	_____	_____ (12)
Nurse management and the law	_____	_____ (13)
Legalities of documentation	_____	_____ (14)
Malpractice liability	_____	_____ (15)

3. Next we have the area of nursing management. The topics are . . . (READ LIST. CHECK IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, REPEAT RANKING PROCESS.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
Basic management	_____	_____ (16)
Charge nurse management	_____	_____ (17)
Change process management, that is, how to deal with basic changes which may come about and how to manage change.	_____	_____ (18)

4. The next area is pharmacology and the topics are . . . (READ LIST. CHECK IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, REPEAT RANKING PROCESS.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
The actions and interactions of drugs	_____	_____ (19)
Over the counter medications	_____	_____ (20)
Chemotherapeutic agents	_____	_____ (21)
Pharmacology and the elderly, that is, how drugs effect the elderly, drug regimen for the elderly, and so forth	_____	_____ (22)

5. Next we have the area of critical care. The topics are . . . (READ LIST. CHECK IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, REPEAT RANKING PROCESS.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
Heart	_____	_____ (23)
Lung	_____	_____ (24)
Neuro	_____	_____ (25)
Renal	_____	_____ (26)
Review of coronary care	_____	_____ (27)
Basic critical care	_____	_____ (28)
Emergency care	_____	_____ (29)

6. Now some general topics. (READ LIST. CHECK IF INTERESTED. IF MORE THAN ONE TOPIC IS CHECKED, REPEAT RANKING PROCESS. IF MORE THAN THREE TOPICS HAVE BEEN CHECKED, REPEAT RANKING PROCESS UNTIL THREE RANKINGS HAVE BEEN ACHIEVED. DO NOT RANK MORE THAN THREE TOPICS.)

<u>(TOPIC)</u>	<u>(INTERESTED)</u>	<u>(RANK)</u>
Pain	_____	_____ (30)
Rehabilitation concepts	_____	_____ (31)
Nursing process	_____	_____ (32)
Nursing diagnosis	_____	_____ (33)
Nursing care plans	_____	_____ (34)
Blood gases	_____	_____ (35)
Body fluids and electrolytes	_____	_____ (36)
Infection control	_____	_____ (37)
Blood therapy and blood components	_____	_____ (38)
Genetics	_____	_____ (39)
Nutrition	_____	_____ (40)
Nursing trends and issues	_____	_____ (41)
Nursing audit	_____	_____ (42)
Alcohol and drug abuse	_____	_____ (43)
Physical assessment	_____	_____ (44)

7. The final area has to do with diseases. We realize it is difficult to list all of the diseases nurses might be interested in, so I'll start by asking you about certain anatomical systems in which diseases occur. As I read the title of each system, please tell me if it would be of interest to you. Let's start with the cardiovascular system. Would this be of interest to you? (IF "YES," ASK:) And what specifically would you be interested in . . . would you say . . . (READ LIST OF PROCESSES. CIRCLE ALL THAT APPLY. CONTINUE READING SYSTEMS AND PROBE FOR PROCESS.)

PROCESSES

Anatomy and physiology of these diseases (A&P)
 Diagnosis of these diseases (DIAG)
 Treatment of these diseases (RX)
 Nursing care, or (CARE)
 Patient teaching of these diseases (TEACH)

<u>IDENT. CODE</u>	<u>SYSTEM TITLE</u>	<u>PROCESSES (CODE NUMBER)</u>				
		<u>A&P</u>	<u>DIAG</u>	<u>RX</u>	<u>CARE</u>	<u>TEACH</u>
(A)	Cardiovascular	1	2	3	4	5
(B)	Digestive	1	2	3	4	5
(C)	Endocrine	1	2	3	4	5
(D)	Eye, ear, nose and throat	1	2	3	4	5
(E)	Gynecology	1	2	3	4	5
(F)	Musculoskeletal	1	2	3	4	5
(G)	Neurological	1	2	3	4	5
(H)	Respiratory	1	2	3	4	5
(I)	Skin	1	2	3	4	5
(J)	Urinary	1	2	3	4	5

- 7a. (IF MORE THAN ONE "SYSTEM" IS MENTIONED, SAY:) You mentioned . . . (GIVE TOTAL NUMBER OF SYSTEMS MENTIONED). Which one of these would you be most interested in, would you say . . . (READ SYSTEMS MENTIONED; RECORD SYSTEM IDENT. CODE. IF MORE THAN ONE "PROCESS" IS MENTIONED FOR THAT SYSTEM, SAY:) And of the processes you mentioned for that system which one would you be most interested in, would you say . . . (READ PROCESSES MENTIONED; RECORD ONE PROCESS CODE NUMBER. REPEAT THIS PROCEDURE UNTIL THREE SYSTEMS HAVE BEEN RANKED.)

	<u>SYSTEM IDENT. CODE</u>	<u>PROCESS NUMBER</u>	
MOST IMPORTANT	_____	_____	(45-46)
SECOND MOST IMPORTANT	_____	_____	(47-48)
THIRD MOST IMPORTANT	_____	_____	(49-50)

- 7b. Of the areas you indicated an interest in, which one would be of most interest to you? Would you say . . . (READ LIST; CODE "1" IN RANK COLUMN OPPOSITE TOPIC AREA.) And which one would be your next choice? (CODE "2" IN RANK COLUMN.) And your third choice? (CODE "3" IN RANK COLUMN.)

<u>(TOPIC AREA)</u>	<u>(RANK)</u>
Human Relations	_____ (51)
Legal Aspects of Nursing	_____ (52)
Nursing Management	_____ (53)
Pharmacology	_____ (54)
Critical Care	_____ (55)
Diseases	_____ (56)
General Topics	_____ (57)

8. Now let's assume for a moment that you had an opportunity to attend a continuing education workshop in which the topics we have discussed were presented. Approximately how far would you be willing to travel to attend the workshop? Would you say . . . (READ LIST. CODE ONE ONLY.)

Your local community	1 (58)
Within your own county	2
Someplace in Eastern Iowa	3
Or anywhere in Iowa	4

9. And for approximately how many days should the workshop last? Would you say . . . (READ LIST. CODE ONE ONLY.)

Less than ½ day (CONTINUE)	1 (59)
½ day (4 hours) (CONTINUE)	2
Full day (6-8 hours)(GO TO 9b)	3
Weekend (GO TO 9c)	4
Or something else (GO TO 9d)	5

- 9a. (IF HALF DAY OR LESS, ASK:) And would you prefer a morning, an afternoon or evening session? (CODE ONE ANSWER ONLY; CONTINUE)

MORNING	1 (60)
AFTERNOON	2
EVENING	3

- 9b. (IF FULL DAY OR LESS, ASK:) And what day of the week would you prefer? (RECORD DAY "CODE NUMBER;" GO TO 10)

DAY:	M	T	W	TH	F	S	S	_____ (61)
CODE:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	

- 9c. (IF WEEKEND, ASK:) And what weekend days would you prefer? Would you say . . .
(READ LIST. CODE ONE ONLY.)

All day Friday through Sunday noon	1	(62)
Friday evening through Sunday noon	2	
All day Friday and Saturday	3	
All day Saturday and Sunday	4	
Saturday through Sunday noon	5	
Or something else? (SPECIFY)	6	

- 9d. (IF SOMETHING ELSE, ASK:) What days would you prefer? (PROBE) [] (63)

10. There are many costs associated with the type of workshop we have been discussing. Which of the following, if any, would you be willing to pay for separately in order to keep the costs down? (READ LIST. CODE ALL THAT APPLY.)

Meals	1	(64)
Food and beverage associated with breaks	1	(65)
Special materials distributed in sessions	1	(66)

- 10a. What do you feel would be a reasonable and affordable fee for this workshop?
(RECORD AMOUNT GIVEN.)

\$ (67-69)

- 10b. Considering the topics and length of the workshop you preferred and the cost, how many continuing education units (CREDIT HOURS) should be given for this workshop? (RECORD ANSWER)

CEU'S: (70-71)

- 10c. Which of the following workshop materials, if any, would you be interested in purchasing after the sessions have concluded? Would you be interested in purchasing . . . (READ LIST. CODE ALL THAT APPLY.)

Reference books	1	(72)
Printed materials associated with the sessions you attended	1	(73)
Written proceedings of the whole workshop	1	(74)
Tape recordings of the sessions	1	(75)

In order to have a better understanding of the nurses participating in our study, I would like to ask you a few background information questions and I won't take up any more of your time. The answers you give will be kept confidential, and no names will be used in our report.

11. Are you an R.N. or and L.P.N.?

RN	1	(76)
LPN	2	

12. For approximately how many years have you been an (RN/LPN)? (RECORD NUMBER OF YEARS GIVEN. IF LESS THAN ONE YEAR, CODE MONTHS.)

YRS: (77)

OR

MOS:

13. And are you actively employed or are you inactive?

ACTIVE (CONTINUE) 1 (78)
INACTIVE (GO TO 14) 2

13a. (IF ACTIVE, ASK:) Which one of the following best describes your present employment setting? (READ LIST. CODE ONE ONLY.)

Office 1 (79)
Hospital 2
Nursing home 3
School nursing 4
Private industry 5
Public health service 6
Teaching 7
Private duty (GO TO 14) 8
:Or something else (SPECIFY) 9

13b. (IF ACTIVE, ASK:) Which one of the following best describes your present position? (READ LIST. CODE ONE ONLY.)

Office nurse 1 (80)
Staff nurse 2
Head nurse or assistant head 3
Supervisor or assistant supervisor 4
Administration or nursing service 5
Instructor 6
Anesthetist 7
Inservice/continuing education 8
:Or something else? (SPECIFY) 9

2

[1-4]

14. Which one of the following best describes your major area of clinical interest? (READ LIST. CODE ONE ONLY.)

General practice 1 (5)
Medical/surgical 2
Geriatric/residential 3
OB/GYN 4
Psychiatric/mental health 5
Community health/public health 6
Pediatric/school nursing 7
Industrial health 8
:Or something else? (SPECIFY) 9

15. What type of nursing diploma or degree do you hold? (DO NOT READ LIST.
CODE ONE ANSWER FROM THE FOLLOWING LIST.)

L.P.N. PROGRAM	1	(6)
L.P.N. + ASSOCIATE DEGREE NURSE LADDER	2	
ASSOCIATE DEGREE NURSE	3	
THREE-YEAR DIPLOMA	4	
R.N. + FOR BACCALAURETTE	5	
R.N. + FOR B.S.N.	6	
B.S.N.	7	
HIGHER DEGREE	8	
OTHER (SPECIFY)	9	

16. In what year did you receive your most recent nursing degree?
(RECORD YEAR GIVEN.)

YEAR: _____ [] (7-8)

17. Are you now attending or enrolled in school? YES (CONTINUE) 1 (9)
NO (GO TO CLOSING) 2

- 17a. (IF ATTENDING OR ENROLLED, ASK:) What degree are you studying for? (DO NOT
READ LIST. CODE ONE ANSWER FROM THE FOLLOWING LIST.)

ASSOCIATE DEGREE NURSE	1	(10)
DIPLOMA NURSE	2	
B.S. OR B.A.	3	
B.S.N.	4	
HIGHER DEGREE	5	
OTHER (SPECIFY)	6	

CLOSING STATEMENT

Well that's all the questions I have. Your answers have been very helpful. Thank
you for your time. Good bye.

-CONTINUED-

(COMPLETE THE FOLLOWING)

19. SEX OF RESPONDENT FEMALE 1 (11)
MALE 2
20. DID RESPONDENT HAVE SIGNIFICANT DIFFICULTY
IN UNDERSTANDING OR REPLYING TO THE QUESTIONS YES (CONTINUE) 1 (12)
NO (GO TO 21) 2
- 20a. (IF YES, PLEASE EXPLAIN.) [] (13)
21. GROUP CODE (FROM CALL RECORD. CIRCLE ONE CODE) 01(14-15)
02
11
12
22. COUNTY CODE(FROM TOP OF CALL RECORD) [] (16-17)
23. TELEPHONE NUMBER:
(AREA) (PREFIX) (NUMBER)

I hereby certify this interview was actually taken with the person described herein and represents a true and accurate account of the interview.

(INTERVIEWER'S SIGNATURE)

(INTERVIEWER #)

(DATE)

COMMENTS:

(FOR USE BY CBBR)

EDITED BY: _____ VERIFIED BY: _____

VALIDATED: DATE: _____ BY: _____ DP PHASE: 1 2 3 4 5

CASE # 1 [1-4]

USE PENCIL; DO NOT USE INK

1. HUMAN RELATIONS	(INTER.)	(RANK)	7b. AREA OF INTEREST	(RANK)		
Stress management	_____	(5)	Human relations	_____ (51)		
Burnout syndrome	_____	(6)	Legal aspects	_____ (52)		
Assert. tech.	_____	(7)	Nursing management	_____ (53)		
Human relation	_____	(8)	Pharmacology	_____ (54)		
Communication	_____	(9)	Critical care	_____ (55)		
Coping with grief	_____	(10)	Diseases	_____ (56)		
Nurse's role	_____	(11)	General topics	_____ (57)		
2. LEGAL ASPECTS	(INTER.)	(RANK)	8. DISTANCE	Local 1 (58)		
Clinical nursing	_____	(12)	Own county	2		
Nurse management	_____	(13)	Eastern Iowa	3		
Legalities of doc.	_____	(14)	Iowa	4		
Malpractice liab.	_____	(15)	9. DAYS	Less than 1/2 day 1 (59)		
3. NURSING MANAGEMENT	(INTER.)	(RANK)	1/2 day	2		
Basic management	_____	(16)	Full day	3		
Charge nurse man.	_____	(17)	Weekend	4		
Change process man.	_____	(18)	Something else	5		
4. PHARMACOLOGY	(INTER.)	(RANK)	9a. (PROBE)	MORNING 1 (60)		
Actions & inter.	_____	(19)	AFTERNOON	2		
Over the counter	_____	(20)	EVENING	3		
Chemotherapeutic	_____	(21)	9b. (PROBE)	_____ (61)		
Pharmacology	_____	(22)	9c. (PROBE)	_____		
5. CRITICAL CARE	(INTER.)	(RANK)	Fri. thru Sun. noon	1 (62)		
Heart	_____	(23)	Fri. eve. thru Sun. noon	2		
Lung	_____	(24)	All day Fri. and Sat.	3		
Neuro	_____	(25)	All day Sat. and Sun.	4		
Renal	_____	(26)	Sat. thru Sun. noon	5		
Review of cor.	_____	(27)	(OTHER)	6		
Basic crit. care	_____	(28)	9d. (PROBE)	[] (63)		
Emergency care	_____	(29)	10. WILLING TO PAY	_____		
6. GENERAL TOPICS	(INTER.)	(RANK)	Meals	1 (64)		
Pain	_____	(30)	Food and beverage	1 (65)		
Rehabilitation	_____	(31)	Special materials	1 (66)		
Nursing process	_____	(32)	10a. FEE	\$ _____ (67-69)		
Nursing diagnosis	_____	(33)	10b. CEU'S	_____ (70-71)		
Nursing care plans	_____	(34)	10c. MATERIALS TO PURCHASE	_____		
Blood gases	_____	(35)	Reference books	1 (72)		
Body fluids	_____	(36)	Printed materials	1 (73)		
Infection control	_____	(37)	Written proceedings	1 (74)		
Blood therapy	_____	(38)	Tape recordings	1 (75)		
Genetics	_____	(39)	11. →	RN 1 (76)		
Nutrition	_____	(40)	LPN	2		
Nursing trends	_____	(41)	12. YEARS (RN/LPN)	YRS: _____ (77)		
Nursing audit	_____	(42)	OR	_____		
Alcohol and drug	_____	(43)	MOS: _____	_____		
Physical assess.	_____	(44)	13. ACTIVE/INACTIVE	ACTIVE 1 (78)		
7. DISEASES	A&P	DIAG	RX	CARE	TEACH	INACTIVE 2
A Cardiovascular	1	2	3	4	5	13a. PRESENT EMPLOYMENT SETTING
B Digestive	1	2	3	4	5	Office
C Endocrine	1	2	3	4	5	Hospital
D EENT	1	2	3	4	5	Nursing home
E Gynecology	1	2	3	4	5	School nursing
F Musculoskeletal	1	2	3	4	5	Private industry
G Neurological	1	2	3	4	5	Public health service
H Respiratory	1	2	3	4	5	Teaching
I Skin	1	2	3	4	5	Private duty
J Urinary	1	2	3	4	5	(OTHER)
7a. (IF MORE THAN ONE "SYSTEM")	SYSTEM	IDENT.	PROCESS	CODE	NUMBER	9
MOST IMPORTANT	_____	_____	_____	_____	(45-46)	
2ND MOST IMPORT.	_____	_____	_____	_____	(47-48)	
3RD MOST IMPORT.	_____	_____	_____	_____	(49-50)	

13b. <u>PRESENT POSITION</u>		16. <u>YEAR RECENT DEGREE</u>	
Office nurse	1 (80)	YEAR: _____	[] (7-8)
Staff nurse	2		
Head nurse or asst. head	3	17. <u>ENROLLED IN SCHOOL</u>	YES 1 (9)
Supervisor or asst.	4		NO
Admin. or nursing service	5	17a. <u>DEGREE STUDYING FOR</u>	
Instructor	6	ASSOCIATE DEGREE NURSE	1 (10)
Anesthetist	7	DIPLOMA NURSE	2
Inservice/cont. education	8	B.S. OR B.A.	3
(OTHER)	9	B.S.N.	4
		HIGHER DEGREE	5
		(OTHER)	6
	2		
	[1-4]		
14. <u>AREA OF CLINICAL INTEREST</u>		18. <u>SEX OF RESPONDENT</u>	FEMALE 1 (11)
General practice	1 (5)		MALE 2
Medical/surgical	2	19. <u>UNDERSTANDING QUESTIONS</u>	
Geriatric/residential	3		YES 1 (12)
OB/GYN	4		NO
Psychiatric/mental health	5	20. <u>(EXPLAIN)</u>	[] (13)
Comm. health/public health	6		
Pediatric/school nursing	7		
Industrial health	8		
(OTHER)	9		
15. <u>DIPLOMA OR DEGREE</u>		20a. <u>GROUP CODE</u>	01 (14-15)
L.P.N. PROGRAM	1 (6)		02
L.P.N. + ASSOCIATE DEGREE	2		11
ASSOCIATE DEGREE NURSE	3		12
THREE-YEAR DIPLOMA	4	21. <u>COUNTY CODE</u>	_____ (16-17)
R.N. + FOR BACCALAURETTE	5	22. <u>TELEPHONE NUMBER:</u>	
R.N. + FOR B.S.N.	6		
B.S.N.	7		
HIGHER DEGREE	8		
(OTHER)	9		
		(AREA) (PREFIX) (NUMBER)	

COMMENTS:

I hereby certify this interview was actually taken with the person described herein and represents a true and accurate account of the interview.

(18-19)

 (INTERVIEWER'S SIGNATURE) (INTERVIEWER #) (DATE)

(FOR USE BY CBBR)

EDITED BY: _____ VERIFIED BY: _____
 VALIDATED: DATE: _____ BY: _____ DP PHASE: 1 2 3 4 5

APPENDIX C
T.V. Center Permission Letter

De Anza College T.V. Center
attn: Dave Barney, Dean
21250 Stevens Creek
Cupertino, CA 95014

August, 1990

Dear Dave,

I would like permission to do a needs assessment survey from the nursing on-site coordinators that your department has on file in its data base. This population consists of those 100 individuals who have either shown interest or have downlinked nursing teleconferences in 1990. I plan to use a random list of 35 from this sample for my study.

This study will be my thesis project for San Jose State University, so all names will remain anonymous. Costs for materials, mailings, telephone calls, and data analysis will be covered by the Research and Innovation Grant that I have received from that De Anza committee in June 1990.

You may find the results of this study to be useful in planning and marketing future nursing teleconferences. Your department will receive a copy of the thesis. Thank you.

Sincerely,

Ms Myra Sternlieb

Ms. Myra Sternlieb

APPENDIX D
T. V. Center Consent Letter

DE ANZA COLLEGE

TELEVISION CENTER

De Anza College
attn: Myra Sternlieb
21250 Stevens Creek
Cupertino, CA 95014

September 21, 1990

Dear Myra:

I give you permission to do a needs assessment survey of the on-site nursing coordinators from our data base file from the 1990 to 1991 academic year.

Our department would like a copy of the study, since the results may be useful in planning and marketing future nursing video teleconferences.

Please let me know if you need any staff support for this project.
Thank you and good luck with the survey!

Sincerely,

A handwritten signature in black ink, appearing to read "David Barney". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

DAVID BARNEY
Associate Dean, Telecommunications

APPENDIX E
Permission Letter to Use Hash Survey

DE ANZA COLLEGE

21250 Stevens Creek Boulevard • Cupertino, California 95014-4797

University of Northern Iowa
attn: Dr. Virginia Hash
Dean, University Continuing Education & Special Programs
Baker Hall #59
Cedar Falls, Iowa 50614

September 6, 1990

Dear Dr. Hash,

I would like permission to use the telephone survey that you developed for use in your hospital consortium project. The nursing population to be surveyed will be selected from a data base that is on file at De Anza College Television Center of on-site teleconference coordinators.

Since only part of the survey was reported in the article in Nursing Research, (Volume 34, Number 2, pages 126-128), I will need a copy of the complete survey. This survey will be part of my thesis project for San Jose State University. Jan Donlea, Dixie Walljasper, and you will receive credit for its development, piloting, and implementation.

I will send you a copy of the results from the survey. Thank you for your cooperation.

Sept 11, 1990
DATE

Virginia Hash Ph.D.
SIGNATURE

Sincerely,

Ms. Myra Sternlieb

Ms. Myra Sternlieb

APPENDIX F
Researcher's Final Telephone Survey

VIDEO TELECONFERENCE NEEDS ASSESSMENT SURVEY

Developed by

Myra Sternlieb
De Anza College
Cupertino, California

November, 1990

To start with, let's assume that you had an opportunity to attend a nursing video teleconference in which a variety of topics were offered. I'm going to read you a list of possible topics. As I read you the list, please tell me how interested you are in each of the topics that I mention. I will then check each topic according to level of interest on a scale of one to five as follows:

1. no interest
2. little interest
3. some interest
4. more interest
5. most interest

TOPIC		LEVEL OF INTEREST				
		1	2	3	4	5
1.	Ethics (a measure of the responsibility and trust that has accrued over the years and corresponding code of conduct and relationships for professional practice).					
2.	Nursing ethics					
3.	Medical ethics.					
4.	Legal ethics.					
5.	Stress Management (such as learning to cope with discouragement, anger, and burnout).					
6.	Assertiveness techniques (such as learning how to stand up for your rights in an appropriate and effective way).					
7.	Human relations skills (such as working with different people).					
8.	Communication skills (such as interviewing and taking histories).					
9.	Coping with grief, death, and dying.					

The next area is legal aspects of nursing.

10. Clinical nursing and the law.
11. Nurse management and the law.
12. Legalities of documentation.
13. Malpractice liability.

Please continue to check level of interest on a scale of one to five as follows:

1. no interest
2. little interest
3. some interest
4. more interest
5. most interest

TOPIC

LEVEL OF INTEREST

1 2 3 4 5

The next area is nursing management.

The topics are:

14. Basic management.
15. Change process management.
16. Management by objectives.
17. Other.

Next we have the area of pharmacology.

The topics are:

18. The actions and interactions of drugs.
19. Chemotherapeutic agents.
20. Pharmacology and the elderly (how drugs affect the elderly and drug regimen for the elderly).

The next area is critical care.

The topics are:

21. Coronary care.
22. Respiratory.
23. Neuro.
24. Renal/Hemodialysis.
25. Hemodynamics.
26. Emergency care.

[illegible]

Please continue to check level of interest on a scale of one to five as follows:

1. no interest
2. little interest
3. some interest
4. more interest
5. most interest

	TOPIC	LEVEL OF INTEREST				
		1	2	3	4	5
27.	Pain.					
28.	Rehabilitation concepts.					
29.	Nursing process.					
30.	Nursing diagnosis.					
31.	Nursing care plans.					
32.	Blood gases.					
33.	Body fluids and electrolytes.					
34.	Infection control.					
35.	Blood therapy and blood components.					
36.	Genetics.					
37.	Nutrition.					
38.	Nursing trends and issues.					
39.	Alcohol and drug abuse.					
40.	Physical assessment.					

The next area has to do with diseases.

41.	Cardiovascular.					
42.	Digestive.					
43.	Endocrine.					
44.	Eye, ear, nose, and throat.					
45.	Gynecology.					
46.	Musculoskeletal.					
47.	Neurological.					
48.	Respiratory.					
49.	Skin.					

Please continue to check level of interest on a scale of one to five as follows:

1. no interest
2. little interest
3. some interest
4. more interest
5. most interest

	TOPIC	LEVEL OF INTEREST				
		1	2	3	4	5
50.	Urinary.					
51.	Oncology.					
52.	Hospice.					
53.	What is your level of interest in the <u>State Board Review?</u>					

In the area of production, how do you feel about the following:

54.	Live video teleconferencing?					
55.	Prerecorded video teleconferencing?					
56.	Wrap-around programming?					
57.	Video teleconference packet materials?					
58.	Purchase of video teleconference tape after the broadcast?					

59. Let's assume for a moment that you had the opportunity to attend a nursing video teleconference in which the topics we have discussed were presented. Approximately how far would you be willing to travel?

1. Your local community?
2. Within your own county?
3. Somewhere else in your state?
4. Anywhere in your state?

60. What time of day do you prefer?

1. Morning?
2. Afternoon?

61. What day of the week do you prefer?
 1. Monday?
 2. Tuesday?
 3. Wednesday?
 4. Thursday?
 5. Friday?
62. How many hours should a video teleconference last?
 1. One hour?
 2. Two hours?
 3. Three hours?
 4. Four hours?
 5. It depends upon the topic?
63. How many months lead time do you feel is necessary to plan for the video teleconference?
64. What fee do you feel is reasonable and affordable for this video teleconference?
65. Are continuing education hours (CEHs) given on-site?
 1. Yes?
 2. No?
66. If the response is "yes" to the previous question, what is the amount of the fee?
67. Regarding the area of State Board Review, what days of the week, including weekends, would be best for you?
68. How many hours per day would be the maximum for the Review?
69. What is your age?
 1. 20 to 29?
 2. 30 to 39?
 3. 40 to 49?
 4. 50 to 60?
 5. over 60?
70. What is your ethnic background?

71. What is your sex?
 1. Male?
 2. Female?
72. Describe your employment setting.
 1. Hospital?
 2. Community College?
 3. University?
 4. Other? (name)
73. Describe your position by the following:
 1. Administration.
 2. Education and Training.
 3. Director.
 4. Faculty.
 5. Other. (name)
74. Name the highest degree you hold.

Thank you. Your answers have been very helpful. I hope that this interview has not caused you undue stress. If you have any questions, please feel free to call me at (408) 864-8653. Dr. Emilie Musci, Graduate Nursing Advisor at San Jose State University, can be reached at (408) 924-3152 if any other concerns arise. And Dr. Serena Stanford, Associate Academic Vice President for Graduate Studies and Research at San Jose State University can be reached at (408) 924-2480 if you need further clarification of any research concerns.

APPENDIX G
November, 1990 Letter to On-Site
Coordinators

November 19, 1990

Dear

De Anza College wants to thank you for your participation in the October 24, 1990 video conference, *Computers and Nursing*. Future video conferences will be planned with consideration given to your personal and professional needs. A random selection of on-site nursing education coordinators will be made. A telephone survey will be conducted with these coordinators for the future selection of national nursing video teleconferences. Please try to assist in this study, since it is also part of my Master's thesis requirement at San Jose State University. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Myra Sternlieb".

Myra Sternlieb, M.S., B.S.N., R.N.
Teleconference Executive Producer
Coordinator, Critical Care Nursing

APPENDIX H
List of Random Numbers

DE ANZA COLLEGE

21250 Stevens Creek Boulevard • Cupertino, California 95014-4797

MEMORANDUM

Date: 14 January 1991
To: Myra Sternleib Steinke
From: Jim Lucas
Subj: Random Number Set

Sorry for the delay. The following is a set of 35 numbers drawn at random from the universe of 100:

1,4,7,11,18
19,20,22,24,26
28,31,33,35,42
48,49,51,54,56
57,58,59,60,61
64,71,74,76,77
87,88,93,95,97

I put them in lots of 5 so it would be easier for one to read and also check on the fact that 35 random numbers were generated!

APPENDIX I
Letter of Confirmation of Selection

DE ANZA COLLEGE

21250 Stevens Creek Boulevard • Cupertino, California 95014-4797

Nursing Educational Needs Survey

January 21, 1991

Dear

De Anza College and I want to again thank you for participating in the October 24, 1990 nursing video teleconference, *Educational Technology for Nursing: A Solution for Today's Problems*. We are now planning future nursing broadcasts with consideration given to your personal and professional needs. You have been selected randomly from a De Anza data base of on-site nursing education coordinators as a respondent to a needs assessment survey we are conducting. Enclosed find the written portion of the Nursing Educational Needs Survey. Within the next few weeks, I shall be telephoning you in order to discuss and record your answers. Your cooperation in this survey will help me both in the completion of my Master's degree in Nursing at San Jose State University and a Research and Innovation Grant from De Anza College. Thank you so much for assisting De Anza College as well as myself in this effort.

Sincerely,

Myra Sternlieb, M.S., B.S.N., R.N.
Teleconference Executive Producer
Coordinator, Critical Care Nursing

APPENDIX J
Reminder Letter

DE ANZA COLLEGE

21250 Stevens Creek Boulevard • Cupertino, California 95014-4797

Nursing Educational Needs Survey

March 25, 1991

Dear

*This is the second mailing.
Please complete and return in
the self-addressed envelope
that I have provided. Thanks.*

De Anza College and I want to again thank you for participating in the October 24, 1990 nursing video teleconference, *Educational Technology for Nursing: A Solution for Today's Problems*. We are now planning future nursing broadcasts with consideration given to your personal and professional needs. You have been selected randomly from a De Anza data base of on-site nursing education coordinators as a respondent to a needs assessment survey we are conducting. Enclosed find the written portion of the Nursing Educational Needs Survey. Within the next few weeks, I shall be telephoning you in order to discuss and record your answers. Your cooperation in this survey will help me both in the completion of my Master's degree in Nursing at San Jose State University and a Research and Innovation Grant from De Anza College. Thank you so much for assisting De Anza College as well as myself in this effort.

Sincerely,

Myra Sternlieb, M.S., B.S.N., R.N.
Teleconference Executive Producer
Coordinator, Critical Care Nursing

APPENDIX K
Researcher's Survey Analysis

Nursing Video Teleconferencing Topic Interest Survey

88

Survey Question	Topic	Count No Interest	Count Little Interest	Count Some Interest	Count More Interest	Count Most Interest	Count Total Responses	Total Points	Mean Points
7	Human Relations Skills	0	0	13	12	10	35	137	3.91
2	Nursing Ethics	1	3	7	14	10	35	134	3.83
40	Physical Assessment	4	2	7	8	12	33	121	3.67
11	Nurse Mgmt/Law	2	4	9	9	11	35	128	3.66
10	Clinical Nursing/Law	3	4	8	7	12	34	123	3.62
38	Nursing Trends/Issues	3	5	8	6	13	35	126	3.60
20	Pharmacology and Elderly	3	1	12	10	9	35	126	3.60
15	Change Process Mgmt	1	6	7	13	7	34	121	3.56
52	Hospice	4	1	9	12	8	34	121	3.56
13	Malpractice Liability	3	3	10	10	9	35	124	3.54
51	Oncology	5	2	5	14	8	34	120	3.53
6	Assertiveness Techniques	2	3	12	11	7	35	123	3.51
12	Legalities of Documentation	3	5	8	9	10	35	123	3.51
22	Respiratory	4	1	8	16	5	34	119	3.50
25	Hemodynamics	4	2	8	15	6	35	122	3.49
41	Cardiovascular	4	1	11	12	7	35	122	3.49
23	Neuro	4	3	7	14	7	35	122	3.49
21	Coronary Care	4	2	9	13	7	35	122	3.49
18	Actions/Interactions Drugs	4	1	13	10	7	35	120	3.43
39	Alcohol/Drug Abuse	4	3	10	11	7	35	119	3.40
5	Stress Management	1	2	16	13	2	34	115	3.38
26	Emergency Care	5	1	11	12	6	35	118	3.37
48	Respiratory	5	2	10	12	6	35	117	3.34
8	Communications Skills	3	4	12	10	6	35	117	3.34
47	Neurological	4	4	8	14	5	35	117	3.34
24	Renal/Hemodialysis	4	5	8	12	6	35	116	3.31
19	Chemotherapeutic Agents	4	4	12	8	7	35	115	3.29
42	Digestive	4	4	11	10	6	35	115	3.29
43	Endocrine	4	4	10	12	5	35	115	3.29
46	Musculoskeletal	4	3	13	9	6	35	115	3.29
49	Skin	3	5	11	10	5	34	111	3.26
4	Legal Ethics	4	5	10	10	6	35	114	3.26
9	Coping with Grief, etc.	3	3	14	12	3	35	114	3.26
45	Gynecology	4	3	13	10	5	35	114	3.26
30	Nursing Diagnosis	4	5	12	7	7	35	113	3.23
31	Nursing Care Plans	4	5	10	12	4	35	112	3.20
33	Body Fluids/Electrolytes	4	3	14	10	4	35	112	3.20
53	State Board Review	9	5	4	3	13	34	108	3.18
34	Infection Control	4	4	13	10	4	35	111	3.17
1	Ethics	4	3	17	4	6	34	107	3.15
50	Urinary	5	4	11	10	4	34	106	3.12
29	Nursing Process	5	6	12	5	7	35	108	3.09
27	Pain	6	4	11	9	5	35	108	3.09
16	Mgmt by Objectives	3	10	9	6	6	34	104	3.06
3	Medical Ethics	3	10	10	7	5	35	106	3.03
17	Other	3	2	11	4	2	22	66	3.00
44	Eye, Ear, Nose/Throat	5	6	12	9	3	35	104	2.97
28	Rehabilitation Concepts	4	6	14	9	2	35	104	2.97
32	Blood Gases	4	6	14	9	2	35	104	2.97
37	Nutrition	5	5	14	8	3	35	104	2.97
14	Basic Management	3	10	13	3	6	35	104	2.97
35	Blood Therapy/Components	5	8	13	7	2	35	98	2.80
36	Genetics	8	9	12	5	1	35	87	2.49