TRAINING ON-SITE COORDINATORS

FOR A VIDEOCONFERENCE ON

HOME-BASED BUSINESSES

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INTRODUCTION

As times and people change, home economics educators reflect on current practices and redirect themselves to meet the needs resulting from that change. In Home Economics--New Directions II (1975, p.2), the American Home Economics Association cites "futuristic thinking and planning" among the priorities for professionals. Such futuristic thinking leads home economics educators to examine new developments in educational technology.

Teleconferencing is a recent delivery method in educational technology. An example of distance education, teleconferencing is as simple as two persons conversing over the telephone. In professional application, however, teleconferencing has become more sophisticated. Technological advances have expanded the capability of teleconferencing, leading to such things as multiple receiving sites and the use of computers and video.

As a communications method, teleconferencing is employed by all types of institutions--business and industry, education, government, and non-profit organizations. These institutions use teleconferencing in a variety of ways. Examples of use include business

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meetings, in-service education, courses for academic or continuing education credit, and non-credit conferences addressing a particular topic for an organization's clientele or various publics.

The use of an unscrambled satellite transmission of a broadcast television signal allows any organization or individual with a satellite receiving dish to access programming from an originating institution. The satellite's ability to transmit the signal to cover a wide geographic area increases the potential audience of the originating institution. This advantage, however, is accompanied by concerns. Lawry (1986) discusses one concern as follows.

> As the number of sites increase, the likelihood that a particular person--or even a particular site--will be able to interact with the featured presenters decreases. Yet live interaction is usually conceded to be a necessary prerequisite to an effective teleconference (p. 3).

In addition, the sending institution has less control over the way the receiving sites use or present the programming. Nevertheless, points addressed by these concerns contribute to the successfulness of the videoconference.

On-site coordinators or on-site seminar leaders are sometimes used by originating institutions for videoconferences. The role of on-site personnel varies greatly. It can be as limited as opening the room, turning on the television and coffee pot, and closing up after the videoconference ends. Or it can be very involved, to the

point of facilitating discussion, answering questions on the subject matter, or even presenting a portion of the subject matter prior to or after the broadcast or both before and after the broadcast in "wraparound" fashion (Lawry, 1986). The role of the on-site personnel is one which has not been explored very extensively as to its contribution to the success of the videoconference.

The focus of this study centers on one type of teleconference--the non-credit educational conference on a particular topic which an institution offers to an adult lay audience. The study concerns itself with this type of teleconference as broadcast by satellite to multiple receiving sites using one-way video and two-way audio communication. The satellite transmits both video and audio to the receiving sites; the receiving sites communicate to the originating site using the telephone-- hence, one-way video and two-way audio.

Videoconferencing is a delivery method home economics educators are using to reach diverse audiences. With the ability to broadcast to multiple locations simultaneously, the videoconference provides experts on a given topic who are readily available for interaction with interested audiences, and it does so with relatively little additional preparation to accomodate multiple sites. Home economics educators, however, are also concerned with the effectiveness of a delivery method. The television industry has done much to ensure the quality of the video

signal and to identify the characteristics of appealing video. On the other hand, there is need for further study on the role of the on-site coordinator or seminar leader to assure the effectiveness of an educational videoconference. Barnes (1986) notes that informal surveys of county agents serving as on-site coordinators indicate a dissatisfaction with videoconferencing. The dissatisfaction seems due in part to agents' concern that they lack workshop training on the topics that are being videoconferenced, which in turn causes concern that they might lose some credibility with clients. Lawry (1986) notes the need for further study of the on-site coordinator and recommends at least a quasi-experimental design with experimental and control groups.

Purpose and Objectives

The purpose of this study is to assess the effect of pre-videoconference training given to on-site personnel. The study concerns itself with a three-hour seminar on the subject of establishing and/or improving a home-based business. The seminar includes a 90-minute videoconference. The seminar with its videoconference is developed, prepared, and offered by the home economics program area of the Oklahoma State University Cooperative Extension Service.

The following objectives are developed to guide the study.

1. To assess if the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods is associated with participants' gain in knowledge of skills to develop or improve a home-based business.

2. To assess if the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods is associated with participants' attitudes toward videoconferencing as an educational delivery method.

3. To assess if the extent of training of on-site seminar leaders is associated with their attitudes toward videoconferencing as an educational delivery method.

Hypotheses

The following hypotheses are formulated for the study.

H_1: There will be no significant difference between exerimental and control groups in the participants' sample regarding participants' gain in knowledge of skills to develop or improve a home-based business due to the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods.

H_2: There will be no significant difference between experimental and control groups in the participants' sample regarding participants' attitudes toward videoconferencing as an educational delivery method due to the extent of

training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods.

H_3:   There will be no significant difference between experimental and control groups in the on-site seminar leaders' sample regarding their attitudes toward videoconferencing as an educational delivery method due to the extent of training of those on-site seminar leaders in home-based business subject metter and videoconference facilitator methods.

Assumptions

The following assumption is made in this study.

1.   Geographic constraints require that the workshop training for the experimental group of on-site seminar leaders be offered in two locations in the state.   It is assumed that the training is presented consistently.

Limitations

The following limitations are recognized in the study.

1.   The on-site seminar leaders have volunteered to offer the seminar in their counties.

2.   The seminar participants are persons who voluntarily choose to attend the seminar.

3.   The study is limited to those sites in Oklahoma that have elected to host the seminar which includes the videoconference.   Generalizations are pertinent for people who fit the descriptions of these subjects.

Definitions

The terms in use throughout the study are defined as follows.

1. <u>Ad hoc, non-credit videoconference</u> is a videoconference on a specific topic for the purpose of short-term, non-credit educational programming, typically used only occasionally as the need arises (Lawry, 1986; Singleton, 1983).

2. <u>On-site seminar leaders</u>, sometimes called on-site coordinators in the literature, are those persons responsible for the videoconference at receiving sites. Responsibilities include securing facilities, promoting the event, assisting with registration, and facilitating activities during the event (Lawry, 1986; Singleton, 1983). The seminar with videoconference in this study is conducted through the Oklahoma State University Cooperative Extension Service home economics program area, and all of the on-site seminar leaders in the study are county Cooperative Extension Service home economists.

3. <u>Participants</u> are those persons attending the videoconference at the receive sites (Baird & Monson, 1982; Lawry, 1986). In this study, they are persons from the lay public who choose to attend the seminar with its videoconference because of an interest in starting a home-based business, an interest in improving an existing home-

based business, or an interest in working with persons who
have home-based businesses.

4. <u>Seminar</u> is a method of offering a videoconference
with wraparound programming where on-site seminar leaders
present subject matter both before and after a
videoconference is broadcast (Lawry, 1986). In this study,
it is the three-hour event held at each receiving site,
including the 90-minute videoconference.

5. <u>Videoconference</u>--Though there are several types of
videoconferences, this study uses the term to mean a video
program broadcast by satellite to multiple downlink or
receiving sites with one-way video and two-way audio
communication (Lawry, 1986; Singleton, 1983).

6. <u>Workshop</u> is the four-hour training session which
constitutes the treatment for the experimental group of the
on-site seminar leaders' sample in this study.

CHAPTER II

REVIEW OF LITERATURE

The review of literature begins with an introduction to the concept of teleconferencing. It is followed by a brief review of the origins of instructional teleconferencing as a prelude to defining this delivery method. As the review of literature continues, it attempts to define teleconferencing, particularly educational teleconferencing with an emphasis on videoconferencing.

The remainder of the chapter examines the literature reporting the observations of persons experienced in using educational teleconferencing. Because there is limited information on videoconferencing alone, the literature review includes other forms of educational teleconferencing as well. Particular attention is given to what the literature says regarding the role of the on-site coordinator at the remote receiving sites and the function that user training plays in gaining acceptance of teleconferencing as an educational delivery mode.

Finally, the chapter concludes with a look at the implications for a non-credit, ad hoc satellite videoconference. Attention is given to implications

regarding on-site coordinators and the training of potential users of teleconferencing in an organization, particularly staff members.

A Rationale for Teleconferencing

Teleconferencing appears to be an idea whose time has come, though Naisbett (1982, p.46) notes that teleconferencing is "so rational it will never succeed". Despite Naisbett's observation, a recent survey estimates that 2.5 million teleconferences have been held during a 12-month period in 1982-83 (Survey for Public Television Station Predicts Growth in Teleconferencing, 1983). McFadden (1986, p.21) notes that "Many middle managers have grown up with video and feel comfortable using it". He feels their attitudes contribute to teleconferencing's acceptance as a valuable communication tool.

Moss (1981, p.ix) states that "new communication technologies offer abundant opportunities to improve the performance of our social, economic, and political systems". He adds the following.

> The impetus for using telecommunications systems is heightened by the rising cost of conventional service-delivery mechanisms and the declining cost of communication technologies. Public services provided at the local level are characterized by their labor intensive nature (Moss, 1981, pp. xi-xii).

In her report of a feasibility study of delivery methods, Halasz (1984) notes that potential clients ranked teleconferencing second out of 11 options for receiving

in-service training, preceded only by out-of-state
conferences. She adds that out-of-state conferences,
though somewhat time-consuming and inconvenient, are often
seen by employees as a reward and are, therefore, held in
high esteem.

Johansen, Vallee, and Spangler (1979) observe that
there are several benefits of teleconferencing, as well as
cautions. Among the benefits of teleconferencing compared
to face-to-face meetings, they note that teleconferenced
meetings can be set up on shorter notice, have the
potential for more people to participate, tend to be more
orderly and focused, and cut transportation costs--though
they note that communication costs do increase. They
caution, however, that the shorter set-up time can lead to
laziness in planning meetings, including responsible
agenda planning and consideration of whom should attend.
They also note that broader participation can reveal
conflicts, thereby aggravating differences instead of
cultivating unity. They also warn that an orderly agenda
can become too narrow and repressive.

Origin of Instructional Teleconferencing

As communication technologies develop, people develop
new purposes for and new ways of using them.
Teleconferencing for instruction is one example. Parker
and Monson (1980a) note that the advent of using radio for
instructional purposes occurred in the 1920s when several

universities experimented with radio instruction. Rao and Hicks (1972) state that the first reported use of the telephone in an instructional conference mode was in 1939 in Iowa in a project aimed at meeting the needs of home-bound and hospitalized students. Parker and Monson (1980a) chronicle the growing application of teleconferencing for instructional purposes, noting the first reported teleconferenced instruction at the university level in 1947 with the University of Illinois College of Dentistry. They report that the 1950s saw many pilot programs in instructional teleconferencing as telephone networks grew in popularity and use. They add that, in the late 1960s, higher and secondary education institutions experienced a growth in teleconferencing by establishing networks for both multiple use and one-shot teleconferencing projects.

The literature reflects that instructional teleconferencing in the 1970s and 1980s shows new patterns of use. Parker and Monson (1980a) describe the 1970s as a time when the introduction of networks stabilized, and existing networks have grown in scope and use. Bretz (1983) notes the advent of the National Aeronautic and Space Administration's introduction of the Applied Technology Satellite (AT-6) in the mid-1970s and its intended use for educational teleconferencing. Parker and Monson (1980b) observe that teleconferencing is experiencing renewed interest in the 1980s, due in part to

industry's desire to reduce the cost of training employees. Increasing travel costs, the increasing rate of employee turnover, and expanding bodies of knowledge in which employees need to be kept up-to-date contribute to industry's interest in instructional teleconferencing (Singleton, 1983). Developments in technology such as satellite communications, computers, telephone bridging and amplification, fiber optics, and television offer further options to instructional teleconferencing.

Definitions of Teleconferencing

Teleconferencing encompasses many kinds of communication skills and technologies that have varying degrees of sophistication. Singleton (1983, p. 218) broadly defines teleconferencing as "electronic meetings; using telecommunication technology to hold meetings or bring individuals into gatherings while remaining in different locations". In its plainest application, teleconferencing can be as simple as two persons conferring over the telephone.

Parker and Monson (1980b, p. 4) describe teleconferencing as "an umbrella term which covers many other options in equipment, linkages, and transmission systems. It can range from the simple 'amplified phone call' . . . to full video conferencing". Olgren and Parker (1983) include the following factors in their description of teleconferences.

1. they use some type of telecommunications channel and technology;

2. they link individuals or groups of people at multiple locations;

3. they are interactive, providing two-way communication; and

4. they are dynamic and live, involving the active participation of people (p. 7).

Lawry (1986) notes that business and industry are the early users of teleconferencing to hold meetings at a distance. Although education may employ teleconferencing to hold meetings and office conferences in such a fashion, its more common purpose for teleconferencing is for teaching at a distance, and other fields, including business and industry, are making growing use of teleconferencing in this manner as well. Parker (1984) uses the term teletraining to describe corporate use of teleconferencing for education purposes, and he defines teletraining as follows.

> . . . an integrated system for the delivery and management of corporate training programs through the use of advanced telecommunications services. Theoretically, teletraining is a type of teleconferencing (p. 10).

To arrive at a definition of teleconferencing that is more focused on its educational applications, a review of Keegan's (1980) four definitions reveals the following six characteristics which Keegan feels are essential to any comprehensive definition of instructional teleconferencing.

1. separation of teacher and student;

2. influence of an educational organization, especially in planning and preparation of materials;

3. use of technical media;

4. provision of two-way communication;

5. possibility of occasional seminars;

6. participation in the most industrialized form of education (i.e. a concern with principles like productivity, division of labor, and mass production).

Since this study concerns an educational teleconference, the literature review which follows focuses on that type of teleconference.

Originating and Receiving Sites

Inherent to a definition of contemporary teleconferencing is the idea of multiple sites participating in a given teleconference. Olgren and Parker (1983) classify participating sites in two kinds--originating and receiving sites.

A teleconference usually has only one originating site, although a limited number, such as two or three sites, may share this role. According to Olgren and Parker (1983), the originating site bears the primary responsibility for the development, production, promotion, and implementation of the educational teleconference.

The multiple receive sites are the remote or distant locations that participate in a teleconference offered by an originating site. Lawry (1986) and Olgren and Parker (1983) note that the receiving sites share in the promotion of the teleconference. Moreover, the bulk of persons participating in an educational teleconference-- the learners--are at the receiving sites.

Network and Ad Hoc Teleconferences

Teleconferencing is often done within the context of a network. In the corporate world, teletraining is usually done through a network of sites joined together to originate and receive the teletraining on a repeated, long-term basis (Parker, 1984). In education, teleconferencing for credit-based courses is generally delivered and managed through a network as well (Olgren and Parker, 1983).

Teleconferencing can also take place in an ad hoc context. Unlike a network, an ad hoc arrangement is more of a one-time, special event situation. Lawry (1986) describes the ad hoc arrangement as a teleconference on a specific topic for the purpose of short-term, non-credit educational programming. Singleton (1983) adds that the ad hoc teleconference is used only occasionally as the need arises. Olgren and Parker (1983) note that ad hoc teleconferences can be described as follows.

> . . . facilities that are temporarily linked
> together for a specific meeting or event; . . .
> [and imply] a one-time or occasional use of
> teleconferencing, as opposed to a permanent
> system or regular usage (p. 321).

Because of their temporary nature, ad hoc teleconferences

are generally used for delivering non-credit educational

opportunities.

Lawry (1986) notes that the ad hoc arrangement, the

kind of teleconference addressed in this study, usually

means that the receiving sites are little more than a list

rather than a network. She observes the following.

> . . . receiving sites will usually differ in
> their experience with teleconferencing, their
> understanding of it, their expectations of it,
> and their commitment of local resources to the
> coordination and enhancement of it (p. 3).

Lawry also cautions the following.

> Once a receiving site has registered for a
> teleconference . . . the ad hoc nature of the
> relationship between receiving site and
> originating site does not lend itself to a great
> deal of control by the originating institution
> over the use that is made of the programming or
> the context in which it is delivered at each of
> the receiving sites. Yet local decisions
> regarding the use of the national broadcast can
> ultimately determine the effectiveness of the
> program at the local site (pp. 3-4).

One attraction of the ad hoc teleconference--its

accessibility to independent receiving sites--may also

limit its effectiveness to some extent.

The Videoconference

As Lawry (1986) notes, educational teleconferencing

can occur using one or a combination of the four major

forms of teleconferencing technology--audio,

audiographics, video, and computer. She observes that

audio teleconferencing systems, in particular, demonstrate

the following.

> . . . [audio teleconferencing systems] have a
> long history of successful use in education,
> particularly to deliver college-level credit
> courses and to meet the non-credit continuing
> education needs of certain professions--e.g.,
> nursing (p. 16).

Video teleconferencing, more commonly called

videoconferencing in the literature, is a more recent

development in teleconferencing. Olgren and Parker (1983)

define it as follows.

> Two-way electronic voice and video communication
> between two or more groups, or three or more
> individuals, who are in separate locations; may
> be fully interactive voice and video [i.e. two-
> way audio and two-way video] or two-way voice
> and one-way video; includes full-motion video,
> compressed video and sometimes freeze-frame
> video (p. 331).

Technological advances make it possible to increase the

convenience and the instructional possibilities of

videoconferencing and decrease the costs, thereby making

videoconferencing more and more of a reality for

educational institutions as well as business and industry.

Technological advances also make it possible for a

videoconference to reach a vast audience. Hussey (1985,

p. 7) notes that videoconferencing "may utilize microwave,

satellite, or fiber optic links to span great distances".

Such links lend themselves equally well to a network or ad

hoc videoconferencing situation.

Full-motion videoconferencing, which is featured in
the videoconference addressed in this study, is configured
one of two ways: (a) two-way video and two-way audio; or
(b) one-way video and two-way audio. With two-way video,
all sites, both originating and receiving, send and
receive video and audio signals. Finkel (1982) notes that
this kind of videoconferencing is more like face-to-face
communication and the more costly. Moreover, it is
generally limited to conferences with only two sites where
the number of participants is small. With one-way video,
only the originating site sends the video signal, and both
the originating and receiving sites send and receive
audio.

The one-way video two-way audio videoconference of
the type featured in this study is the more common
configuration in education. Olgren and Parker (1983)
state the following.

> Whereas most of the applications of
> videoconferencing in business use two-way video
> systems between two locations, educational
> applications tend to have one-way video and two-
> way audio networks for point-to-multipoint
> educational programming (p. 261).

Video, especially full-motion video, may be the more
appealing medium for teleconferencing. Rosenweig (1986,
p. 32) notes that "the sophistication pervading video
production and distribution is matched by the evolution of
a savvy and demanding viewing public that has grown up in
the television age". Rosenweig observes that the

teleconference participants of today are persons who expect to receive some of their information via video.

Factors Contributing to the Use and
Effectiveness of Teleconferencing

Numerous practices appear to affect teleconferences. Lawry (1986) discusses two types of factors influencing the effectiveness of teleconferencing--organizational and design factors. According to Lawry (1986, p.14) organizational factors are those "which influence the acceptance and degree of utilization of teleconferencing within a particular organization". Lawry (1986, p.14) describes design factors as ones which relate "not only to features of the teleconference itself but also to a variety of complementary activities which can be undertaken by the originating institution and the receiving sites together to increase the effectiveness of the learning experience for participants". Acker (1985) uses the term human factors and points out that something innovative and complex like teleconferencing needs to consider the human factors to develop a broad base of user support if it hopes to be accepted.

The remainder of this chapter looks at what users of teleconferencing have learned from their experiences in originating and receiving educational teleconferences regarding the factors just described. This study concerns the role of the on-site seminar leader in an ad hoc non-

credit seminar with satellite videoconference conducted by the Oklahoma Cooperative Extension Service for its diverse clientele. The literature does not contain much information on such a specific circumstance; therefore, the literature review includes experiences gained from a variety of educational teleconferences. The review includes teleconferences delivered on a network or on an ad hoc basis, for credit or non-credit, regardless of the medium or media employed (whether audio, audiographics, video, or computer), and regardless of the transmission method (whether satellite, fiber optics, cable, or microwave).

Internal Promotion and Training

The importance of an organization securing its people's support of teleconferencing permeates the literature. Some organizations who have experience with teleconferencing point to Rogers' (1983) "Diffusion of Innovations Theory" and its application in getting persons to support the introduction of teleconferencing into an organization. Rogers (1983, p.11) defines innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption". His theory looks at diffusion as "the process by which (1) an innovation (2) is communicated through certain channels (3) over time (4) among the members of a social system" (Rogers, 1983, pp. 10-11).

In discussing the implementation of new technology in an organization, Leonard-Barton and Kraus (1985, p. 108) note that potential users often have a "legitimate resistance to change". They advise that an organization engage in the "shifting of ownership of the innovation to users" (Leonard-Barton & Kraus, 1985, p. 103), as administration/management are generally the ones that decide to acquire the new technology while the staff (the end users) may not have been consulted. Leonard-Barton and Kraus note that the introduction of a new technology into the organization's environment or way of doing business can cause a fear of loss of skills or power. They caution that employees may fear that adopting the new technology may mean a loss of the control they have in the way they perform their work. Leonard-Barton and Kraus (1985) warn about the absence of personal benefit stating the following.

> An innovation must offer an obvious advantage over whatever it replaces, or potential users will have little incentive to use it. The more visible the costs of an innovation (financial, convenience, the need to learn new skills), the greater the importance of making potential benefits and awards apparent. These benefits include . . . greater recognition (being part of a valued implementation team) (pp. 108-109).

Leonard-Barton and Kraus (1985, p. 104) also caution that "Selling top management on the case for new technology-- without simultaneous involvement of user organization in the decision-making process--is not enough".

Moss (1981) is also concerned about the conditions under which new technology is introduced through promotion and training into an organization. Moss (1981) notes the following.

> The introduction of technological innovations is not a simple matter: individuals and groups are often resistant to change and a systematic implementation strategy is essential to assure the successful incorporation of technological innovation into existing activities and operations. Thus it is necessary that organizational as well as technological factors be considered in the design and application of telecommunications systems (pp. ix-x).

Moss (1981, p. ix) adds that "relatively little is known about the relationship of telecommunications to productivity" and states the following.

> Our knowledge of the technology of telecommunications is far greater than our knowledge of the social and economic factors that influence the use of new telecommunication systems (p. xii).

Elton (1982, p. 53) cautions "It is a serious mistake to assume that teleconferencing will be used just because it is available. There is a good deal of evidence to the contrary".

Olgren and Parker (1983) also note the need to consider human factors to gain and maintain user support of teleconferencing. Their comments include the following.

> The problem of user acceptance of teleconferencing is not unusual, and some well-designed technical systems have fallen into disuse after an early spurt of interest. . . . User acceptance and sustained applications are two of the most important human factors in

teleconferencing and they require as much, or even more, planning than the technical design (p. 238).

Acker (1985) discusses the characteristics of innovation and bases his comments on Rogers (1983) "Diffusion of Innovations Theory". He has developed a series of questions to be considered by persons wanting to introduce teleconferencing to an organization. Acker's (1985) series includes the following.

1. Relative Advantage. From the perspective of the user, is the innovation superior to the present system in use? Can teleconferencing save money, improve decision making, save time, or enhance corporate responsiveness when compared to current communication systems?

2. Complexity. How difficult is the teleconferencing system to use? Can members of the organization easily understand teleconferencing and easily apply it towards desired ends?

3. Observability. If teleconferencing is adopted, how evident are the results brought about by using the system? Are the results of using teleconferencing, the assumed relative advantages, unambiguous and easily described to others? (p. 211).

To these questions, Acker (1985) adds the following two items.

4. Trialability. Communication is a public, ego-involving activity. People prefer modes of communication in which they feel competent. An opportunity for low-risk experimentation is a desirable attribute for a communication innovation.

5. Compatibility. Every organization possesses a set of values set within a corporate culture. Is the use of teleconferencing consistent with currently held beliefs and will the relationships

among individuals in the corporation
continue undisturbed? (p. 211).

Acker (1985) concludes by stating that his trialability
lab contributes to building a broad base of user support
for and adoption of teleconferencing by offering a low-
risk, high-information learning environment for potential
users.

Pryor (1985) describes a model, based on Fishbein and
Ajzen's (1975) work, which he believes has potential
utility for studying the determinants of teleconferencing
utilization. He sees its applicability in understanding
and changing user attitudes and behaviors related to
teleconferencing. Pryor advises that the problems of user
acceptance are to be resolved long before a
teleconferencing system is installed. He notes that
resolution of these problems usually requires change in
attitudes.

Chute's (1982) work addresses presenters' concerns
about how to present effectively via teleconferencing. He
notes that individuals change their attitude and behavior
towards an innovation as they become more familiar with
its use. Chute describes his use of interviews and
questionnaires to assess the concerns of the presenters
and identify needs based on those concerns, then develop
strategies for a workshop to met those needs. Chute
(1982) describes the subsequent workshop as follows.

After the workshop opening, a rationale for
using teleconferencing is presented. At this

time, the participants are provided information
which demonstrates how teleconferencing can meet
their needs. . . . Next, participants learn
teleconference techniques essential to the
adoption of instructional teleconferencing;
failure to implement an innovation is often
attributed to the number of obstacles faced by
the user in attempting to carry it out. One
such obstacle is the appropriate use of the
innovation (p. 301).

Bevan and Threlkeld (1983) describe what they feel
are the conditions necessary for change--in their case,
helping potential teleconference users accept the
technology. They see a helping relationship where the
"helper (trainer, implementer) needs to offer the person
the chance to experiment and try out new behaviors in a
warm, accepting and understanding setting" (p. 251).
Bevan and Threlkeld (1983) offer the following scenario.

First, people who are about to encounter a new
and stressful situation, such as
teleconferencing, need to be properly prepared
to cushion the change. Second, it is possible
to design training that will minimize stress,
and lead to a successful experience. Finally,
this training should be more than simple
handouts, manuals or didactic lectures. It
should concentrate on behaviors, be in a setting
which simulates the actual teleconferencing
environment as much as possible, and should be
designed to recognize the emotional component of
this new and unique experience (p. 251).

Bevan and Threlkeld suggest behavior modification
techniques useful to teleconference implementers,
specifically systematic desensitization and reinforcement.
Their comments are applicable to organizations like the
Oklahoma Cooperative Extension Service seeking to gain
acceptance of teleconferencing by county staff.

On-site Coordination

On-site coordination at the receiving sites is often a feature of teleconferences, though the role the on-site coordinator plays does vary. Duties range from opening the room and turning on equipment to taking a more active role, such as promoting the teleconference, handling registration, facilitating discussion, even teaching by conducting local wraparound programming before, after, or before and after the teleconference. Naisbett (1982) suggests that in order for people to adapt to high technology, they need human counterbalances (i.e. high touch). The on-site coordinator can be the human counterbalance--the "high touch"--that helps people participating in teleconferences at the receive sites adapt to the technology and get the most value from it.

Several persons experienced in successful teleconferencing acknowledge the contribution of the on-site coordinator. In the report of a study done on audio teleconferencing, Benning (1985) reports the following.

> The presence or absence of an individual in the student's village whose responsibility it is to facilitate the learning process is another important element in distance instruction (p. 40).

Benning notes that the role of the on-site coordinators in the study varies; some are content specialists while others assist primarily with logistics.

The role of the on-site coordinator becomes quite involved. In the report of her study, Boone (1984) notes

that what she calls "facilitators" do the following: (a)
provide structure, (b) provide socioemotional support, (c)
create a sense of shared space, (d) establish a democracy,
(e) model appropriate behavior, (f) clarify terms and
concepts, (g) repair interpersonal communication problems,
and (h) set the pace for the teleconference. Boone (1984)
acknowledges the contributions such persons make to the
effectiveness of a teleconference and observes the
following.

> It is curious that institutions are willing to
> invest large capital outlays in sophisticated
> systems and yet they have not recognized that,
> no matter how fine the quality of the
> equipment, it is only as effective as the
> person using it. . . . Researchers as well as
> organizations must pay more attention to
> uncover ways of teaching people [to
> teleconference] more effectively (p. 222).

In another description of the on-site coordinator's role,
Casey-Stahmer and Havron (1973) note that local on-site
coordinators serve as gatekeepers to manage the traffic
flow of questions at the receive sites.

Cordes and Boysen (1984) address the importance of
on-site coordinators and their training. Their comments
pertain to 32 one-hour audio teleconferences to Veterans
Administration hospitals over a two-year period. The
authors note that on-site coordinators are trained by
teleconference in seven one-hour weekly teleconferences.
Results show that participant satisfaction is based to
some extent on how well an on-site coordinator does at a
receive site, though that is not heavily emphasized at

their training. Cordes and Boysen (1984) suggest that on-site coordinators need training in group process skills to avoid reinforcing passivity in learners, and they note the following.

> It is clear . . . that special things must be done to accommodate the learner. By the same token, it is clear that the teletrained learner will have to adapt to new forms of instruction. An interface is needed to bring the new process and the new learner together. In order to create this interface, a trained on-site coordinator is essential to each remote site (p. 179).

Cordes and Boysen (1984) add these comments about the role of the on-site coordinator.

> In most instances . . . the role of the on-site coordinator is defined in terms of equipment set-up and operation and room scheduling. It is clear that this rather limited role does not include dealing with the many factors referred to thus far [e.g. group facilitation skills, effective moderating skills, some content expertise] (p.179).

Cordes and Boysen (1984, p. 180) observe that the role of the on-site coordinator grows in importance as the level of learning increases in complexity, noting that "more skill is required to facilitate a session of problem solving exercises than a session of basic information dissemination".

A study by Bowman (1986) looks at Ohio University's Higher Education Microwave Services (HEMS) and reveals further evidence of the value of on-site coordinators. In the report, Bowman describes how HEMS functions to meet the needs of students, generally employed full-time, for

whom travel time and expense to the central campus is a main obstacle. Numbers of students at the receive sites are too few to justify sending a faculty member to the site. In a report of the evaluation, Bowman notes that no student grade differences have been observed between students at the originating site and the receiving sites. He says, however, that the evaluation does reveal that students at the receiving sites felt left out and unsure about the system.

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Implications for Cooperative Extension

Service Ad Hoc Videoconferences

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Several of the factors identified in the literature apply to the nation-wide non-credit ad hoc satellite videoconferences of the kind offered by the Cooperative Extension Service (CES) and related non-formal education organizations. The ad hoc nature of the videoconferences offered by the CES implies that each videoconference has a different configuration of receiving sites. Moreover, the receiving sites' experience with videoconferencing is likely to vary greatly, not to mention the participants' experience.

The literature emphasizes the value of the on-site coordinator and identifies the role that person plays to contribute to a successful teleconference. The implications for the CES ad hoc videoconferences are numerous, including the following, for example: (a) what

roles can an on-site coordinator play in an ad hoc setting? (b) how does the CES train the on-site coordinator for an ad hoc videoconference? and (c) what needs to be included in the training?

The literature also explores the value of training the potential users of teleconferencing within an organization. Again, there are direct implications for the CES and other related organizations, including the need to explore what kind of training is appropriate for helping to gain the staff's acceptance of teleconferencing.

CHAPTER III

RESEARCH PROCEDURES

This study assessed the effects of a face-to-face
training workshop for on-site seminar leaders hosting a
seminar which featured an ad hoc, non-credit
videoconference. The research design, population and
sample, instrumentation, and analysis were discussed in
this chapter.

Research Design

The study employed a type of experimental research--
specifically a quasi-experimental design. According to
Best (1981, p. 25), experimental research "describes <u>what
will be</u> when certain variables are carefully controlled or
manipulated". Best (1981, p.26) also discussed the quasi-
experimental design, noting that it "provides a less
satisfactory degree of control, used only when
randomization is not feasible". Campbell and Stanley
(1963) noted the appropriateness of quasi-experimental
research in the following statement.

> There are many natural social settings in which
> the research person can introduce something like
> experimental design into his scheduling of data
> collection procedures . . . , even though he
> lacks the full control over the scheduling of

experimental stimuli . . . which makes a true experiment possible (p. 34).

Isaac and Michael (1981, p. 54) stated that quasi-experimental research was used to "approximate the conditions of a true experiment in a setting which does not allow the control and/or manipulation of all relevant variables". A quasi-experimental design was used in this study because the researcher was working with naturally occurring groups.

The quasi-experimental research design for this study was the nonequivalent control group design (See Table I). It involved experimental and control groups for each of the two samples--on-site seminar leaders and participants. The control and experimental groups in each sample were not assessed for pre-experimental sampling equivalence. Fitz-Gibbon and Morris (1978b) noted that the nonequivalent control group design was the method to use when policy mandated that programs be made available for all persons.

Experimental and Control Groups

Experimental and control groups were used in both the sample of on-site seminar leaders and the sample of participants. Twenty on-site seminar leaders were in the experimental group and 18 in the control group for that sample. The seminar participants at the 20 sites led by on-site seminar leaders in the experimental group comprised the experimental group of the participants' sample;

TABLE I

QUASI-EXPERIMENTAL RESEARCH DESIGN:
NONEQUIVALENT CONTROL GROUP

Sample	Group	Pretest	Treatment	Pretest	Treatment	Pretest	Treatment	Posttest	Posttest
	E_1	O	X						O
On-site seminar leaders	E_2			O	X				O
	C	O							O
	E_1					O	X	O	
Partici-pants	E_2					O	X	O	
	C					O		O	

On-site seminar leaders:
    E_1 = Experimental group attending the first treatment workshop held two weeks before the seminar with videoconference.
    E_2 = Experimental group attending the second treatment workshop held one week before the seminar with videoconference.

Participants:
    E_1 = Seminar participants attending a seminar with videoconference conducted by an on-site seminar leader from experimental group E_1.
    E_2 = Seminar participants attending a seminar with videoconference conducted by an on-site seminar leader from experimental group E_2.

participants at the 18 control sites comprised the control group of that sample.

Experimental Group--On-site Seminar Leaders. This group consisted of on-site seminar leaders randomly assigned to receive the treatment (workshop training). There were 20 sites making up this experimental group. They received the treatment with the assistance of two instructors.

Experimental Group--Participants. This group included the participants who attended a seminar on home-based business conducted by an on-site seminar leader from the on-site seminar leaders' experimental group. The seminar participants came from 20 naturally assembled groups of participants. Participants voluntarily chose to attend the seminar that was convenient for them; they were not aware as to whether or not the on-site seminar leader at a particular site was in the experimental group and received the treatment (i.e. training by workshop).

Control Group--On-site Seminar Leaders. This group consisted of 18 on-site seminar leaders who were randomly assigned to receive no teleconferencing treatment. They received printed information by mail from the home-based business sponsors identical to that given in the treatment (workshop training).

Control Group--Participants. This group included the participants who attended seminars on home-based business conducted by an on-site seminar leader from the 18 on-site seminar leaders' in that control group. As with the experimental group, participants in the control group voluntarily chose to attend the seminar that was convenient for them; they were not aware as to whether or not the on-site seminar leader at a particular site was in the control group had not received the treatment (i.e. training by workshop).

Treatment

The experimental group of on-site seminar leaders received a treatment which consisted of face-to-face training by workshop for the "Home-based Business: Putting It All Together" seminar. The training workshop included the following components.

- An in-depth review and explanation of the on-site seminar leaders' responsibilities for the site activities that preceded and followed the videoconference during the seminar.
- Instruction on skills in beginning and operating a home-based business as covered in a review of the participants' booklet titled "Putting It All Together".
- A thorough review and explanation of the materials in the participants' folders.

- Instruction on videoconferencing as an educational delivery method.

For the convenience of the on-site seminar leaders, the training workshop was held twice--once in the west half of the state and once in the east. Workshops were held one week apart, the first being held two weeks prior to the seminar. Each training workshop involved four contact hours with the on-site persons. Both training workshops were conducted by the same two persons.

The control group was not given the face-to-face training workshop which constituted the treatment. To protect the rights of the human subjects involved, the researcher provided the control group with materials identical to those given to the experimental group. The materials were sent by mail.

Population and Sample

The study had two samples from two populations--the on-site seminar leaders and the seminar participants. The self-selected sample of on-site seminar leaders included 38 Oklahoma State University Cooperative Extension Service (OSU CES) county home economists that opted to participate by holding the seminar on home-based business in their counties. The sample came from a population of 77 OSU CES county offices, all of which had the option to be a receiving site for the seminar.

The self-selected sample of seminar participants was 239 Oklahomans interested in establishing and/or improving a home-based business or interested in working with home-based business owners by providing services such as graphics consultation, accounting, or legal advice. The sample came from a population of an unknown larger number of Oklahomans who shared the same interest but neglected to participate. The 239 participants were probably residents of the 38 counties where the county agents wanted to sponsor the seminar with videoconference.

Instrumentation

The instruments for this study were developed by the researcher. There were two instruments--one for participants (See Appendix A) and one for on-site seminar leaders (See Appendix B). Each was administered in a pretest and posttest version.

Participants' Instrument

The participants' instrument contained two parts. One part was a series of 20 multiple-choice items to measure participants' knowledge of the subject of home-based business. The other part was an agreement scale consisting of 11 attitude statements to measure participants' attitudes toward videoconferencing as an educational delivery method.

The knowledge portion of the participants' instrument was developed from the instructional objectives formulated to guide the development of the seminar, including the videoconference segment. The items came from the moderator's script for the videoconference, the participants' booklet, and videotaped interviews with home-based business owners which were a part of the videoconference.

The agreement scale measured attitudes towards videoconferencing. The item statements to measure attitudes were developed from issues the researcher extracted from experience, observation, and concerns expressed in the literature. Attitude statements in the participants' instrument were stated in terms of the participant as a recipient of education delivered by videoconference. Particular attention was given to developing items appropriate to the use of videoconferencing as a method to deliver short-term, non-credit educational programming to a lay adult audience. In particular, the researcher had in mind such a setting as the non-formal educational programming offered by organizations like the Cooperative Extension Services of land-grant universities.

On-site Seminar Leaders' Instrument

The on-site seminar leaders' instrument used an agreement scale only; it did not include a knowledge

portion on home-based business. It consisted of 15 attitude statements to measure the on-site seminar leaders' attitudes toward videoconferencing as an educational delivery method. The scale used in the on-site seminar leaders' instrument resembled the attitude scale in the participants' instrument, but the items differed somewhat in perspective, as attitude statements in the on-site seminar leaders' instrument were stated in terms of the on-site seminar leader as an adult educator using videoconferencing as a delivery method.

Validity of the Instruments

The validity of the instruments was assessed using content validity. The content validity of the knowledge portion of the participants' instrument was assessed by a panel of experts on the subject of skills in beginning and operating a home-based business. Experts included one home economics university faculty member with expertise in entrepreneurship, two home economics university faculty members with expertise in operating a business in a home environment, and one home economics university faculty member with expertise in the legal aspects of home-based business. Suggestions of the panel were incorporated into the instrument.

Content validity for the attitudes portion of both instruments was assessed by a panel of experts. The panel included one home economics university faculty member with

expertise in using videoconferencing, one educational broadcaster with videoconference production expertise, and one home economics educator with expertise in videoconference production and usage. Suggestions of the panel were incorporated into the instrument.

Reliability of the Instruments

The reliability for the on-site seminar leaders' instrument was determined in a pilot test by internal consistency using the split-half procedure. In the pilot test, the instrument was administered to 13 subjects. They were Oklahoma Cooperative Extension Service state specialists who were also faculty members in the College of Home Economics and one home economics faculty member in resident instruction. All had experience in videoconferencing. The test was administered one time and the results used to determine the reliability of the instrument using the split-half procedure for internal consistency. The coefficient of correlation, Pearson's Product-Moment coefficient, was used to indicate the level of reliability (Fitz-Gibbon & Morris, 1978a); (Siegel, 1956). The coefficient of correlation was $r = .61$. As recommended by Ahmann and Glock (1981), the Spearman-Brown "Prophecy Formula" was used to adjust the coefficient of correlation "to estimate the expected coefficient of reliability [correlation] of the total test" (p.245). A value of $r = .73$ was found.

The reliability for each of the two parts of the participants' instrument (multiple choice knowledge test and attitudes agreement scale) was determined as part of the study itself, due to the inavailability of pilot test subjects that closely resembled the participants at the home-based business videoconference. Reliability was determined by internal consistency using the split-half procedure. The coefficient of correlation, Pearson's, was used to indicate the level of reliability. For the multiple choice knowledge test, the coefficient of correlation was $r = .47$. When adjusted using the Spearman-Brown "Prophecy Formula", a value of $r = .64$ was found. For the agreement scale, the coefficient of correlation was $r = .76$. When adjusted using Spearman-Brown, a value of $r = .87$ was found.

Administration of the Instruments

Both instruments were administered as pretests and posttests. The participants' instrument was administered to participants by the on-site seminar leaders during the three-hour "Home-based Business: Putting It All Together" seminar. The pretest was administered at all 38 sites in the study five minutes into the seminar. The posttest was administered near the conclusion of the seminar, five minutes after the completion of the videoconference. Multiple choice items in the knowledge portion of the participants' instrument were rearranged for the posttest

to minimize the effects of memory. The on-site seminar leaders collected the participants' instruments and returned them to the researcher.

The control and experimental groups of on-site seminar leaders were administered the pretest by mail and in-person at the face-to-face training by the researcher, respectively. Administration of the pretest took place several days prior to the seminar. The control group received and returned the pretest by mail. The experimental group was administered the pretest at the face-to-face trainings immediately before each training began. Both the experimental and control groups of on-site seminar leaders received the posttest by mail in the week following the seminar.

Analysis of Data

Responses to the items on the pretests and posttests were coded and the data were entered into the computer. The SYSTAT System for Statistics computer program was used for analysis of the data. The level of significance was .05.

The t-test procedure was used to analyze gain scores of the pretests and posttests between the experimental and control groups of both samples. Comments on the pretests and posttests provided additional qualitative information for interpretation and recommendations.

CHAPTER IV

FINDINGS

The purpose of this quasi-experimental research was to assess the effect of pre-videoconference training given to on-site seminar leaders on their attitudes toward videoconferencing and seminar participants' attitudes toward videoconferencing and knowledge gain concerning home-based business. The study concerned itself with a three-hour seminar on the subject of establishing and/or improving home-based businesses. The seminar was held concurrently at numerous sites and included a 90-minute videoconference that originated from Oklahoma State University and linked all the remote receiving sites.

The study was guided by the following objectives.

1. To assess if the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods was associated with participants' gain in knowledge of skills to develop or improve a home-based business.

2. To assess if the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitator methods was associated with

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participants' attitudes toward videoconferencing as an educational delivery method.

3. To assess if the extent of training of on-site seminar leaders was associated with the on-site seminar leaders' attitudes toward videoconferencing as an educational delivery method.

The findings described in this chapter resulted from the pretests and posttests responded to by experimental and control groups of seminar participants and on-site seminar leaders of the home-based business seminars.

Population and Sample

The study had samples from two populations--on-site seminar leaders and seminar participants. Each sample had an experimental group and control group, both given a pretest and a posttest. Because the self-selected samples were groups that constituted naturally assembled collectives, the quasi-experimental nonequivalent control group design was employed in the study.

On-site Seminar Leaders

The self-selected sample of 38 on-site seminar leaders included Oklahoma State University Cooperative Extension Service (OSU CES) county home economists that opted to participate by holding the seminar on home-based business at sites in their counties. The sample came from a population of 77 OSU CES county offices, all of which had

the option to offer the seminar which included being a receiving site for the videoconference. Twenty sites were randomly assigned to the experimental group and 18 sites to the control group.

Of the 38 on-site seminar leaders who chose to offer the home-based business seminar in their local counties, 38 returned the on-site seminar leaders' instruments. There were 32 usable responses from the pretests and posttests given to the on-site seminar leaders--18 out of the original 20 in the experimental group and 14 out of the original 18 in the control group. This represented approximately 84 percent of the total sample (See Figure 1 for the geographic distribution of the 32 sites). Reasons for loss of respondents and the lack of usability of responses included cancellation of the local seminar due to lack of participants and failure to return the posttests.

Items on the on-site seminar leaders' pretest asked for the respondent's age, tenure with the Cooperative Extension Service, and whether or not the respondent had hosted a videoconference before. In the sample of on-site seminar leaders, 96 percent indicated that they had hosted a previous videoconference. The sample was fairly evenly distributed in years of tenure with the Cooperative Extension Service (See Table II). The majority of the sample, 75 percent, fell into two age groups (30-39 years; 40-49 years) (See Appendix C).

Figure 1.   Geographic Distribution of Sites in Oklahoma

TABLE II

TENURE OF ON-SITE SEMINAR LEADERS IN
THE COOPERATIVE EXTENSION SERVICE

Sample	Less Than 2 Years	2-5 Years	6-10 Years	11-15 Years	16-20 Years	20+ Years
Total Sample (N=32)						
Number	−	8	4	7	7	6
Percent	−	25	12.5	21.9	21.9	18.7
Experimental Group (N=18)						
Number	−	1	3	6	3	5
Percent	−	3.1	9.4	18.8	9.4	15.6
Control Group (N=14)						
Number	−	7	1	1	4	1
Percent	−	21.9	3.1	3.1	12.5	3.1

Participants

The self-selected sample of seminar participants were Oklahomans interested in establishing and/or improving a home-based business or interested in working with home-based business owners by providing services such as graphics consultation, accounting, or legal advice. The sample came from a population of an unknown larger number of Oklahomans who shared the same interest.

Approximately 250 participants attended the home-based business seminars at the county sites included in the study. Of that number, 239 participants' instruments were returned--158 from the experimental group and 81 from the control group. There were 217 usable responses from the pretests and posttests given to participants--140 from the experimental group and 77 from the control group. The usable responses represented approximately 87 percent of the total possible sample of approximately 250. Reasons for loss of some of the responses included participants' arrival at the seminar after the pretest was administered and participants' departure before the posttest was administered.

The sample of participants with usable responses was 31 percent male and 69 percent female. About 65 percent of the sample indicated that they had never participated in a videoconference. Some 57 percent indicated that they had never participated in Cooperative Extension Service

programs prior to the seminar (See Table VIII, Appendix D).
Ninety-six participants, 44 percent, indicated that they
were currently involved in a home-based business. Of those
96 participants, the largest group had been involved in a
home-based business less than six months (See Table IX,
Appendix D). Ages ranged from under 20 years old to 70-
plus years; almost 70 percent were under 50 years old (See
Table X, Appendix D). The majority of participants (74
percent) had achieved an education level beyond high school
(See Table XI, Appendix D).

Treatment for On-site Seminar Leaders

The treatment consisted of a workshop which included
the following components.

- An in-depth review and explanation of the on-site
  seminar leaders' responsibilities for the county
  site activities that preceded and followed the
  videoconference during the seminar.
- Instruction on skills in beginning and operating a
  home-based business as covered in a review of the
  participants' booklet titled "Putting It All
  Together".
- A thorough review and explanation of the materials
  in the participants' folders.
- Instruction on videoconferencing as an educational
  delivery method.

Twenty on-site seminar leaders were randomly assigned to the experimental group and received the treatment--the workshop. The on-site seminar leaders' control group of 18 people did not receive the instruction by workshop which constituted the treatment.

Treatment for Participants

The 140 participants in the experimental group (about 57 percent of the sample of about 250 participants) were those who attended the seminar, including its videoconference, at the 20 sites facilitated by the experimental group of on-site seminar leaders. At those sites, the on-site seminar leaders trained by workshop conducted the wraparound programming that preceded and followed the videoconference broadcast.

The 77 participants in the control group (about 31 percent of the sample of about 250 participants) were those who attended the seminar, including its videoconference, at the 18 sites facilitated by the control group of on-site seminar leaders. At those sites, the on-site seminar leaders who were not trained by workshop conducted the wraparound programming that preceded and followed the videoconference broadcast.

Examination of Hypotheses

Three hypotheses were examined in an effort to identify significant differences between the experimental

and control groups of the two samples. Using the statistical procedures identified in the previous chapter, the appropriate computations were completed.

Participants' Knowledge of
Home-based Business

H_1: There is no significant difference between the experimental and control groups in the participants' sample regarding participants' gain in knowledge of skills to develop or improve a home-based business due to the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitation methods.

The 20 items on the multiple choice portion of the participants' instrument were used to test the possibility of significant differences between the participants' experimental and control groups in knowledge about developing or improving a home-based business after participating in the seminar (See Appendix A). Each multiple choice pretest and posttest was scored and a gain score calculated for each participant.

The $\underline{t}$-test was used to analyze the gain scores of pretests and posttests. As can be seen in Table III, the mean gain score for knowledge of the participants with leaders who had the workshop (experimental group) was 2.93. The mean gain score for the participants' control group was 2.99. No significant differences existed between the

TABLE III

$\underline{t}$-TEST ANALYSIS OF PARTICIPANTS' KNOWLEDGE
OF HOME-BASED BUSINESS SKILLS

Group	Variable	N	Mean	Standard Deviation	$\underline{t}$ Value
1	Pretest	77	12.65*	2.82	-1.41
2	Pretest	140	13.19*	2.65	-1.41
1	Posttest	77	15.67*	2.53	1.54
2	Posttest	140	16.12*	2.04	1.54
1	Gain Score	77	2.99	2.15	.17
2	Gain Score	140	2.93	2.50	.17

1 = Control group
2 = Experimental group

*Total points possible = 20.

experimental and control groups, therefore the researcher did not reject Hypothesis (H_1). Having an on-site seminar leader who had received the instruction by workshop did not affect knowledge gain among the participants.

Knowledge Gain. The data were further analyzed to discern if there was a significant gain score for both experimental and control groups combined. The $\underline{t}$-test analysis of both groups on gain scores resulted in the alpha level of <.0001 for the gain scores between pretest and posttest (See Table IV). The gain scores for the total group indicated that the seminar with videoconference was successful in teaching participants knowledge about home-based business skills.

Participants' Attitudes Toward
Videoconferencing

H_2: There is no significant difference between the experimental and control groups in the participants' sample regarding participants' attitudes toward videoconferencing as an educational delivery method due to the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitation methods.

The 11 items on the attitude scale portion of the participants' instrument were used to test the possibility of significant differences between the participants' experiment and control groups regarding attitudes toward

TABLE IV

PARTICIPANTS' GAIN IN KNOWLEDGE OF
HOME-BASED BUSINESS SKILLS

Group	Variable	N	Mean	Standard Deviation	t-Value	P
Total	Pre-Post	217	2.95	2.41	18.057	<.0001

videoconferencing as an educational delivery method. The participants were asked to indicate their feelings about videoconferencing on a five-point Likert-type scale. A rating of four indicated "strongly agree"; three indicated "agree"; two indicated "disagree"; one indicated "strongly disagree"; and zero indicated "uncertain". The "uncertain" response was not used in statistical analysis. A gain score was calculated for each participant.

The $\underline{t}$-test was used to analyze the gain scores of pretests and posttests (See Table V). No significant differences existed between the experimental and control groups of participants, therefore the researcher did not reject Hypothesis (H_2). Having an on-site seminar leader who had received instruction by workshop did not affect the attitudes toward videoconferencing among the participants.

On-site Seminar Leaders' Attitudes
Toward Videoconferencing

H_3: There is no significant difference between the experimental and control groups in the on-site seminar leaders' sample regarding their attitudes toward videoconferencing as an educational delivery method due to the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitation methods.

The 15 attitude statements on the on-site seminar leaders' instrument were used to test the possibility of

TABLE V

t-TEST ANALYSIS OF PARTICIPANTS' ATTITUDES
TOWARD VIDEOCONFERENCING

Group	Variable	N	Mean	Standard Deviation	t Value
1	Pretest	77	28.46*	8.65	-.76
2	Pretest	140	29.32*	7.75	-.76
1	Posttest	77	33.39*	5.82	.14
2	Posttest	140	33.27*	6.10	.14
1	Gain score	77	4.94	6.87	1.09
2	Gain score	140	3.95	6.08	1.09

1 = Control group
2 = Experimental group

*Total points possible = 44.

significant differences between the seminar leaders'
experiment and control groups regarding attitudes toward
videoconferencing as an education delivery method (See
Appendix B). As with the participants' instrument, on-site
seminar leaders were asked to indicate on a five-point
Likert-type scale their feelings about videoconferencing.
A rating of four indicated "strongly agree"; three
indicated "agree"; two indicated "disagree"; one indicated
"strongly disagree"; and zero indicated "uncertain". The
"uncertain" response was not used in statistical analysis.
A gain score was calculated for each on-site seminar
leader.

The t-test was used to analyze the gain scores of
pretests and posttests (Table VI). No significant
differences existed between the on-site seminar leaders'
experimental and control groups, therefore the researcher
did not reject Hypothesis (H_3). The on-site seminar
leaders' instruction by workshop did not affect their
attitudes toward videoconferencing as an educational
delivery method.

TABLE VI

t-TEST ANALYSIS OF ON-SITE SEMINAR LEADERS' ATTITUDES TOWARD VIDEOCONFERENCING

Group	Variable	N	Mean	Standard Deviation	t Value
1	Pretest	14	37.07*	12.18	-.66
2	Pretest	18	39.44*	8.18	-.66
1	Posttest	14	36.21*	10.36	1.21
2	Posttest	18	40.28*	8.67	1.21
1	Gain scores	14	-0.86	13.57	.47
2	Gain scores	18	0.83	6.55	.47

1 = Control group
2 = Experimental group

*Total points possible = 60.

CHAPTER V

CONCLUSIONS, RECOMMENDATIONS,

AND IMPLICATIONS

The purpose of this study was to assess the effect of
pre-videoconference training given to on-site seminar lead-
ers on their attitudes toward videoconferencing and seminar
participants' attitudes toward videoconferencing and knowl-
edge gain concerning home-based business. A nonequivalent
control group quasi-experimental research design was used
to test the effect of the pre-videoconference training.

Conclusions

Three null hypotheses were tested. The following
conclusions were drawn from that testing.

Hypothesis One

H_1: There is no significant difference between the
experimental and control groups in the participants' sample
regarding participants' gain in knowledge of skills to
develop or improve a home-based business due to the extent
of training of on-site seminar leaders in home-based
business subject matter and videoconference facilitation
methods. The researcher did not reject this hypothesis

since no significant differences were found to exist
between the experimental and control groups of the partici-
pants' sample when gain scores on knowledge of home-based
business were analyzed. Having an on-site seminar leader
who had received the treatment of instruction by workshop
did not affect knowledge gain among the participants.

The home-based business seminar with videoconference
was held during a time of economic distress. Many persons
were motivated to engage in or explore income opportunities
that could be achieved with a minimum of overhead.
Operating a business in the home was one such option to
control costs while generating income. Since both
experimental and control groups in the participants' sample
were motivated to attend the home-based business seminar
with videoconference, this motivation may be one
explanation of no significant difference between groups as
a result of the on-site seminar leaders' training.

Knowledge Gain. The finding of knowledge gain in both
groups agreed with a similar study done by Bowman (1986)
where no significant student grade differences had been
observed between students at the originating site of a
videoconference and those at the receive sites. As with
the Bowman (1986) study, the mean gain scores of both the
experimental and control groups on the knowledge portion of
the instrument were statistically significant. This
finding indicated that the sample of seminar participants

had gained knowledge about home-based business between the pretest and posttest as a result of the home-based business seminar with videoconference.

Hypothesis Two

H_2: There is no significant difference between the experimental and control groups in the participants' sample regarding their attitudes toward videoconferencing as an education delivery method due to the extent of training of on-site seminar leaders in home-based business subject matter and videoconference facilitation methods. The researcher did not reject this hypothesis since no significant differences were found between the experimental and control groups of the participants' sample when gain scores on attitude toward videoconferencing were analyzed.

In this hypothesis, having an on-site seminar leader who had received the treatment of workshop instruction on the subject of home-based business and videoconference facilitation did not affect participants' attitudes toward videoconferencing as an educational delivery method. The results agreed with a similar study done by Kirkhorn (1985) in which there were no significant differences in learners' level of satisfaction with a course delivered by teleconference and one delivered face-to-face. The results differed, however, from a study done by Lang (1986). That study found that audience acceptance of teleconferencing, as indicated by willingness to attend future meetings, was

negatively affected for those attending meetings facilitated by on-site persons who had less training in using teleconferencing technology and were less comfortable with using it than those with more experience. Reasons for the difference in results between that study and the one examined in this research could be due to the videoconferencing experience reported by on-site seminar leaders in this study--96 percent of the total sample indicated that they had hosted a previous videoconference.

Hypothesis Three

H_3: There is no significant difference between the experimental and control groups in the on-site seminar leaders' sample regarding their attitudes toward videoconferencing as an educational delivery method due to the extent of training of those on-site seminar leaders in home-based business subject matter and videoconference facilitation methods. The researcher did not reject this hypothesis since no significant differences were found to exist between the experimental and control groups of the on-site seminar leaders' sample when gain scores on attitude toward videoconferencing were analyzed. The on-site seminar leaders' instruction by workshop did not affect their attitudes toward videoconferencing as an educational delivery method.

The on-site seminar leaders' instrument gave subjects an opportunity to express comments on both the pretest and

posttest. Those comments provided qualitative information that supported the quantitative analysis. Both positive and negative comments came from each group in the sample. Responses included statements that videoconferencing was one way for the Cooperative Extension Service to reach new audiences. This was supported by the response from participants that 57 percent had never participated in Cooperative Extension Service programming prior to the seminar. Another common response was that the benefit of videoconferencing depended on the quality of the broadcast itself, the topic addressed by the videoconference, and the amount of time it took for the on-site person to promote and prepare for it versus the audience it attracted. Out of the 20 subjects who wrote comments (10 in the experimental group and 10 in the control group), 10 subjects (six in the experimental group and four in the control group) said something to the effect that the home-based business videoconference was both a good production as well as a worthwhile topic.

Some on-site seminar leaders questioned the value of a wraparound format because it increased the amount of preparation required of them and involved more material for them to digest. That comment was interesting in light of the fact that the wraparound format had been selected for use specifically with this videoconference by the videoconference planners. They decided to use that format to address concerns previously expressed by county

Extension staff that they preferred to function before clientele as educators rather than facilitators in implementing a videoconference (Barnes, 1986).

There were additional comments expressed by on-site seminar leaders in both groups. One criticism mentioned by five persons was that April--the month during which the videoconference was held--was too congested with other activities and deadlines. Some also criticized videoconferences in general, as illustrated by this comment from an on-site seminar leader in the control group.

> Very few people attend videoconferences. There are entirely too many on too many topics for us to host. . . . I always have poor turnout at video conferences (as do all other Extension professionals I visit with). I strongly feel that they are an unnecessary burden on my schedule.

An on-site seminar leader from the experimental group expressed frustration with videoconferencing in the following statement.

> We have not reached many people with the videoconferences!! This conference was put on top of one of my major county events that we scheduled the first of January, 1987. I question where this is best [sic] use of my time since we have not reached more than 8 to 10 at any one videoconference.

The only topic not mentioned in the comments by both groups was the registration fee charged of participants-- eight dollars to pre-register and 10 dollars at the door. The charging of a fee was not a common practice for educational programming in the home economics program area of the Oklahoma Cooperative Extension Service, but the

videoconference planners determined that a fee was needed
to offset some of the costs of the seminar. Comments came
from the control group only, where three persons mentioned
the fee--two described it as a negative aspect while a
third noted that participants at her site seemed to feel
that "they got their money's worth". One of the negative
comments explained the circumstance as follows.

> No more charge courses. We really had problems.
> They [the participants] felt like this was a
> course the economic times needed but not for
> charge. Also caused me many problems--had two
> who would not pay nor leave.

The lack of comments from the experimental group about the
fee could be attributed to the treatment (workshop
training), since on-site seminar leaders had the
opportunity to discuss the reasons for charging the fee and
its purposes with the main videoconference planner at the
workshop.

Recommendations

The study was undertaken to assess the effect of pre-
videoconference training given to on-site seminar leaders.
The research looked at the effect of that training on both
the seminar leaders' and seminar participants' attitudes
toward videoconferencing as well participants' gain in
knowledge about home-based business. Recommendations of
directions for future procedures for videoconferences in
Cooperative Extension Service programming were detailed in
the following paragraphs.

1. It is recommended that videoconferences be continued as an effective way for the Oklahoma Cooperative Extension Service to reach new audiences.

2. It is recommended that videoconferences be continued as an effective teaching method for the Oklahoma Cooperative Extension Service and that the effectiveness of the method be insured with appropriate staff and client input and appropriate support materials--promotional and educational--for on-site personnel.

3. It is recommended that videoconference developers plan and produce high quality videoconferences incorporating effective use of the technology, on-camera instructors and guests, visuals, and related elements that contribute to the educational soundness and overall appeal of the medium.

4. It is recommended that the management or administration of an organization provide adequate training for on-site personnel in the early stages of implementing videoconferencing.

5. It is recommended that further research be conducted to assess the effectiveness of the wraparound format when conducting a videoconference versus the broadcast-only format. In the wraparound format, the on-site coordinator would be more involved as an educator than as facilitator only.

6. It is recommended that further research be done using the instruments developed by the researcher to refine

their ability to measure attitudes toward videoconferencing as an education delivery method for the Cooperative Extension Service and knowledge gain about the subject of home-based business.

7. It is recommended that further research incorporate the collection of qualitative data from videoconference participants.

Implications

The findings and conclusions of this study led the researcher to make the following statements as to the effects of pre-videoconference training for on-site coordinators at the receiving sites of a videoconference.

1. There are implications that well developed instructions and training materials for on-site seminar leaders are as effective in preparing those persons to conduct videoconferences as a face-to-face workshop, particularly when they had previous videoconferencing experience.

2. There were implications that county Extension staff needed further training and assistance in promoting videoconferences and attracting an audience.

3. There were implications that the Cooperative Extension Service home economics program area needs to examine guidelines to facilitate the charging of fees for videoconference programming and provide assistance to staff in this area.

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APPENDIXES

APPENDIX A

PRETEST AND POSTTEST

FOR PARTICIPANTS

Pretest and Posttest Procedures

The participants' instrument consisted of 20 multiple choice items on home-based business and 11 statements to measure attitude toward videoconferencing as an educational delivery method. The same test was used for the pretest and the posttest with one change--the order of the 20 multiple choice items was rearranged. Examples of both pretest and posttest are included in this appendix.

PARTICIPANTS' PRETEST   ___ ___ ___ ___

THE HOME-BASED BUSINESS QUIZ

Welcome to this evening's seminar. To prepare for the seminar, please answer the questions below.

DIRECTIONS: Please circle the letter (ex. a, b, c, or d) for the one best answer to each of the questions below.

1. What percent of new home-based businesses fail in the first two years?

    a. 25%
    b. 50%
    c. 65%
    d. 75%

2. Zoning laws affect which one of the following aspects of a home-based business?

    a. the amount of home property tax required
    b. if a sales tax is required
    c. the legality of having a business at home
    d. the type of business ownership

3. Which one of the following is an example of business promotion?

    a. choosing the business name
    b. identifying zoning ordinances
    c. incorporating
    d. market research

4. A business plan helps an owner do which one of the following things?

    a. determine legal forms of ownership
    b. see where the business is going
    c. select potential customers
    d. understand zoning ordinances

5. Which one of the following factors is a special concern to home-based businesses?

    a. a well-designed logo
    b. a large amount of family savings
    c. family and business needs
    d. a well-managed advertising plan

6. Which one of the following do owners use to decide on the goals and objectives of a home business?

    a. an advertising agency
    b. the articles of incorporation
    c. state tax laws
    d. a business plan

7. A home-based business owner tells his child that he cannot help her with homework until he quits work at 5:00 p.m. What is he trying to tell her about his business?

   a. He doesn't want to be bothered.
   b. Her needs aren't important to him.
   c. He's at work, even though he's home.
   d. His business takes a lot of his time.

8. Which type of ownership has the advantage of limited personal liability?

   a. sole proprietorship
   b. general partnership
   c. limited partnership
   d. corporation

9. What is the main reason for home-based business failures?

   a. low quality products or services
   b. lack of business skills
   c. failure to consider family's needs
   d. inadequate advertising

10. Which of the following is the most important personal trait of successful home-based business owners?

   a. friendliness
   b. substantial operating capital
   c. imagination
   d. self-discipline

11. In the sole proprietor type of business, what kind of tax do new owners most often forget to pay?

   a. income taxes
   b. property taxes
   c. self-employment taxes
   d. sales taxes

12. Which one of the following can a home-based business owner do to develop a business attitude?

   a. consult an attorney to review contracts
   b. set and observe office hours
   c. advertise regularly in the local paper
   d. take in a partner

13. Home-based business owners Sue and Joe Jones appeared on a local TV program as guest experts promoting their business--gourmet catering. What kind of business promotion were they doing?

   a. advertising
   b. market research
   c. publicity
   d. public relations

14. Market research helps owners do which one of the following things?

    a. identify competition
    b. determine tax liability
    c. clarify the zoning laws in their neighborhood
    d. decide on incorporation

15. Which one of the following problems is unique to home-based business owners?

    a. the lack of work space
    b. the family doesn't see it as a business
    c. insufficient family savings to start out
    d. the difficulty in finding an attorney

16. Production records help owners with which one of the following?

    a. taxation
    b. selecting the type of ownership
    c. advertising
    d. pricing

17. How long does it usually take home-based businesses to show a profit?

    a. at least 6 months
    b. 6 to 12 months
    c. 1 to 3 years
    d. at least 6 years

18. Which of the following is one disadvantage of a corporation?

    a. lack of continuity if an owner dies
    b. all profits taxed as personal income
    c. a great deal of record keeping
    d. limited regulation

19. What can using a phone answering machine do for a home-based business?

    a. advertise your product or service
    b. discourage clients or customers
    c. gather market research
    d. help owners manage time effectively

20. What is the most important business management skill for a home-based business owner?

    a. planning
    b. prompt payment of bills
    c. advertising ability
    d. pricing

Please continue with the next part.

HOW DO YOU FEEL ABOUT VIDEOCONFERENCING?

Part of this seminar is given by videoconference. We'd like to know how you feel about a videoconference as a method to deliver education, even if you have not been to one before this one. Please respond to each of the statements below.

DIRECTIONS: Circle the letter(s) (ex. SA, A, D, SD, or U) following each statement that best describes the extent to which you agree or disagree with the statement.

STATEMENTS.

		Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
21.	I can learn as much from a videoconference as from a face-to-face speaker.	SA	A	D	SD	U
22.	I like the idea of video-conferencing.	SA	A	D	SD	U
23.	I plan to attend another videoconference.	SA	A	D	SD	U
24.	I prefer the videoconference to a face-to-face speaker.	SA	A	D	SD	U
25.	I support videoconferencing as an alternative way the Cooperative Extension Service can deliver education.	SA	A	D	SD	U
26.	The on-site seminar leader in a videoconference adds to what I learn.	SA	A	D	SD	U
27.	A videoconference is a good way to have experts available to me in my local area.	SA	A	D	SD	U
28.	I prefer a nearby videoconference to travelling more than a county away to hear a face-to-face speaker.	SA	A	D	SD	U
29.	Videoconferencing is convenient for me.	SA	A	D	SD	U
30.	The on-site leader is very involved in the seminar.	SA	A	D	SD	U
31.	A videoconference is as effective as a face-to-face meeting.	SA	A	D	SD	U

Please complete the last page.

DEMOGRAPHIC INFORMATION

DIRECTIONS: Please circle the letter (a, b, c, etc.) that corresponds with the correct information about you.

32. How often do you participate in Cooperative Extension Service programs?

    a. at least once a month
    b. about every other month
    c. two or three times a year
    d. never before

33. Have you ever attended a videoconference, other than this one?

    a. yes
    b. no

34. Are you currently engaged in a home-based business?

    a. yes
    b. no

If yes, answer number 35 below. If no, skip to number 36.

35. How long have you operated your home-based business?

    a. less than 6 months
    b. 6 months to less than 1 year
    c. 1 year to less than 2 years
    d. 2 years to less than 4 years
    e. 4 years to less than 6 years
    f. 6 years or more

36. Sex:

    a. male
    b. female

37. Age at last birthday:

    a. less than 20 years
    b. 20 to 29 years
    c. 30 to 39 years
    d. 40 to 49 years
    e. 50 to 59 years
    f. 60 to 69 years
    g. 70 years or more

38. What is the highest level of education you have completed?

    a. no formal education
    b. grade school (8th grade)
    c. some high school
    d. completed high school
    e. some college
    f. completed bachelor's degree
    g. some graduate work
    h. completed graduate degree

PARTICIPANTS' POSTTEST ___ ___ ___ ___

THE HOME-BASED BUSINESS QUIZ -- WHAT DID YOU LEARN?

Before we continue the seminar, please answer the following questions to show us what you've learned.

DIRECTIONS: Please circle the letter (a, b, c, or d) for the <u>one</u> <u>best</u> answer to each of the questions below.

1. A home-based business owner tells his child that he cannot help her with homework until he quits work at 5:00 p.m. What is he trying to tell her about his business?

    a.   He doesn't want to be bothered.
    b.   Her needs aren't important to him.
    c.   He's at work, even though he's home.
    d.   His business takes a lot of his time.

2. Which one of the following can a home-based business owner do to develop a business <u>attitude</u>?

    a.   hire an attorney to review contracts
    b.   set and observe office hours
    c.   advertise regularly in the local paper
    d.   take in a partner

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    b.   the family doesn't see it as a business
    c.   insufficient family savings to start out
    d.   the difficulty in finding an attorney

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    b.   prompt payment of bills
    c.   advertising ability
    d.   pricing

5. Which of the following is one example of business promotion?

    a.   choosing the business name
    b.   identifying zoning ordinances
    c.   selecting an accountant
    d.   market research

6. What is the main reason for home-based business failures?

    a. low quality products or services
    b. lack of business skills
    c. failure to consider family's needs
    d. inadequate advertising

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    d. corporation

20. Which of the following is one disadvantage of a corporation?

    a. lack of continuity if an owner dies
    b. all profits taxed as personal income
    c. a great deal of record keeping
    d. limited regulation

Please continue with the next part.

HOW DO YOU FEEL ABOUT VIDEOCONFERENCING NOW?

Please respond to each of the statements below.

DIRECTIONS: Circle the letter(s) (ex. SA, A, D, SD, or U) following each statement that best describes the extent to which you agree or disagree with the statement.

STATEMENTS.	Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1	Uncertain 0
21. I can learn as much from a videoconference as from a face-to-face speaker.	SA	A	D	SD	U
22. I like the idea of video-conferencing.	SA	A	D	SD	U
23. I plan to attend another videoconference.	SA	A	D	SD	U
24. I prefer the videoconference to a face-to-face speaker.	SA	A	D	SD	U
25. I support videoconferencing as an alternative way the Cooperative Extension Service can deliver education.	SA	A	D	SD	U
26. The on-site seminar leader in a videoconference adds to what I learn.	SA	A	D	SD	U
27. A videoconference is a good way to have experts available to me in my local area.	SA	A	D	SD	U
28. I prefer a nearby videoconference to travelling more that one county away to hear a face-to-face speaker.	SA	A	D	SD	U
29. Videoconferencing is convenient for me.	SA	A	D	SD	U
30. The on-site leader is very involved in the seminar.	SA	A	D	SD	U
31. A videoconference is as effective as a face-to-face meeting.	SA	A	D	SD	U

APPENDIX B

PRETESTS AND POSTTEST FOR

ON-SITE SEMINAR LEADERS

Pretest and Posttest Procedures

The on-site seminar leaders' instrument consisted of 15 statements to measure attitude toward videoconferencing as an educational delivery method. The same test was used for the pretest and posttest, though the administration of the pretest differed between the experimental and control groups. The experimental group was administered the pretest at the treatment (the training workshop), while the control group was mailed the pretest. Examples of the two pretests and the posttest are included in this appendix.

ON-SITE LEADERS' PRETEST--EXPERIMENTAL GROUP

ON-SITE SEMINAR LEADERS ATTITUDES TOWARD VIDEOCONFERENCING

So we can learn more about how to make videoconferencing more effective in Oklahoma, please complete this questionnaire. **YOUR RESPONSES WILL BE KEPT CONFIDENTIAL.** Thank you for your cooperation.

DIRECTIONS: Circle the letter(s) (ex. SA, A, D, SD, or U) following each statement that best describes the extent to which you agree or disagree with the statement.

STATEMENTS:	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
1. I support videoconferencing as an educational delivery method.	SA	A	D	SD	U
2. People learn from a video-conference as well as they learn from a face-to-face presentation.	SA	A	D	SD	U
3. The on-site seminar leader in a videoconference contributes to the participants' learning.	SA	A	D	SD	U
4. Videoconferences are a good way to reach clientele.	SA	A	D	SD	U
5. Videoconferences strengthen my value as an Extension educator.	SA	A	D	SD	U
6. Sponsoring a videoconference is a good use of my time.	SA	A	D	SD	U
7. Promoting a videoconference is a good use of my time.	SA	A	D	SD	U
8. Videoconferences are worth my effort.	SA	A	D	SD	U
9. Serving as the on-site seminar leader in a videoconference is a good use of my time.	SA	A	D	SD	U
10. Videoconferences help me reach new audiences.	SA	A	D	SD	U
11. Videoconferences are worthwhile in that they make experts available to distant sites.	SA	A	D	SD	U

	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain

STATEMENTS:

12. Videoconferencing makes the Cooperative Extension Service more competitive in the educational market.

                SA   A   D   SD   U

13. Extension is correct to use staff time to implement videoconferencing.

                SA   A   D   SD   U

14. Clientele are more attracted to a local videoconference than a face-to-face meeting on the same topic held some distance away.

                SA   A   D   SD   U

15. Videoconferences enhance my county program.

                SA   A   D   SD   U

- -

DEMOGRAPHIC INFORMATION:

DIRECTIONS: Please circle the letter (a, b, c, etc.) that corresponds with the correct information about you.

Age:
   a. 20-29
   b. 30-39
   c. 40-49
   d. 50-59
   e. 60 and over

Years working for Extension:
   a. less than 2
   b. 2 to 5
   c. 6 to 10
   d. 11 - 15
   e. 16 - 20
   f. 21 and over

Have you ever hosted a videoconference before?
   a. yes
   b. no

ON-SITE LEADERS' PRETEST--CONTROL GROUP

ON-SITE SEMINAR LEADERS' ATTITUDES TOWARD VIDEOCONFERENCING

So we can learn more about how to make videoconferencing more effective in Oklahoma, please complete this questionnaire. Please return it to the following **AS SOON AS POSSIBLE**. Persons responding by April 25, 1987 will receive a copy of the survey results.

> Renée Daugherty
> 148 Home Economics West
> Oklahoma State University
> Stillwater, Oklahoma 74078

YOUR RESPONSES ARE CONFIDENTIAL. Thank you for your cooperation.

DIRECTIONS: Circle the letter(s) (ex. SA, A, D, SD, or U) following each statement that best describes the extent to which you agree or disagree with the statement.

STATEMENTS:	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
1. I support videoconferencing as an educational delivery method.	SA	A	D	SD	U
2. People learn from a video-conference as well as they learn from a face-to-face presentation.	SA	A	D	SD	U
3. The on-site seminar leader in a videoconference contributes to the participants' learning.	SA	A	D	SD	U
4. Videoconferences are a good way to reach clientele.	SA	A	D	SD	U
5. Videoconferences strengthen my value as an Extension educator.	SA	A	D	SD	U
6. Sponsoring a videoconference is a good use of my time.	SA	A	D	SD	U
7. Promoting a videoconference is a good use of my time.	SA	A	D	SD	U
8. Videoconferences are worth my effort.	SA	A	D	SD	U
9. Serving as the on-site seminar leader for a videoconference is a good use of my time.	SA	A	D	SD	U
10. Videoconferences help me reach new audiences.	SA	A	D	SD	U

	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
11. Videoconferences are worthwhile in that they make experts available to distant sites.	SA	A	D	SD	U
12. Videoconferencing makes the Cooperative Extension Service more competitive in the educational market.	SA	A	D	SD	U
13. Extension is correct to use staff time to implement videoconferencing.	SA	A	D	SD	U
14. Clientele are more attracted to a local videoconference than a face-to-face meeting on the same topic held some distance away.	SA	A	D	SD	U
15. Videoconferences enhance my county program.	SA	A	D	SD	U

- -

DEMOGRAPHIC INFORMATION:

DIRECTIONS: Please circle the letter (a, b, c, etc.) that corresponds with the correct information about you.

Age:
   a. 20-29
   b. 30-39
   c. 40-49
   d. 50-59
   e. 60 and over

Years working for Extension:
   a. less than 2
   b. 2 to 5
   c. 6 to 10
   d. 11 - 15
   e. 16 - 20
   f. 21 and over

Have you ever hosted a videoconference before?
   a. yes
   b. no

ON-SITE LEADERS' POSTTEST ___ ___

ON-SITE SEMINAR LEADERS ATTITUDES TOWARD VIDEOCONFERENCING

Now that you have conducted the videoconference on home-based business, please complete this questionnaire so we can learn more about how to make videoconferencing more effective in Oklahoma. **YOUR RESPONSES WILL BE KEPT CONFIDENTIAL.** Thank you for your cooperation.

DIRECTIONS: Circle the letter(s) (ex. SA, A, D, SD, or U) following each statement that best describes the extent to which you agree or disagree with the statement.

STATEMENTS:	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
1. I support videoconferencing as an educational delivery method.	SA	A	D	SD	U
2. People learn from a video-conference as well as they learn from a face-to-face presentation.	SA	A	D	SD	U
3. The on-site seminar leader in a videoconference contributes to the participants' learning.	SA	A	D	SD	U
4. Videoconferences are a good way to reach clientele.	SA	A	D	SD	U
5. Videoconferences strengthen my value as an Extension educator.	SA	A	D	SD	U
6. Sponsoring a videoconference is a good use of my time.	SA	A	D	SD	U
7. Promoting a videoconference is a good use of my time.	SA	A	D	SD	U
8. Videoconferences are worth my effort.	SA	A	D	SD	U
9. Serving as the on-site seminar leader in a videoconference is a good use of my time.	SA	A	D	SD	U
10. Videoconferences help me reach new audiences.	SA	A	D	SD	U
11. Videoconferences are worthwhile in that they make experts available to distant sites.	SA	A	D	SD	U

	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
12. Videoconferencing makes the Cooperative Extension Service more competitive in the educational market.	SA	A	D	SD	U
13. Extension is correct to use staff time to implement videoconferencing.	SA	A	D	SD	U
14. Clientele are more attracted to a local videoconference than a face-to-face meeting on the same topic held some distance away.	SA	A	D	SD	U
15. Videoconferences enhance my county program.	SA	A	D	SD	U

- -

CONDITIONS OF THE SEMINAR:

DIRECTIONS: Please circle the letter (a, b, c, etc.) that best describes the conditions of the seminar.

19. Did you begin the seminar on time at 6:30 p.m.?

   a. yes, give or take a couple minutes
   b. no, we started at least five minutes late

20. Did you end the seminar on time at 9:30 p.m.?

   a. yes, give or take a couple minutes
   b. no, we ended a few minutes early
   c. no, we went overtime at least 5 minutes

21. Did your site experience technical interference in the TV picture or sound during the videoconference?

   a. yes, but it was minor
   b. yes, and we missed some of the videoconference
   c. no

   If you circled "b", please answer number 22. If you circled "a" or "c", skip to number 23.

22. Which part(s) of the broadcast did your site miss? (Circle any letters that apply.)

   a. the first 5 minutes, including Mrs. Bellmon
   b. Marilyn Burns comments on personal traits and habits
   c. Ken Ratzlaff discussing market research (pre-recorded)
   d. Cathy Stansberry, the CPA (in studio)
   e. Damon Doye (u-pick-it vegetable business) (pre-recorded)
   f. Tsu Kriedler, attorney, discussing types of business ownership (pre-recorded)
   g. the segment on promotion
   h. the segment on family relationships
   i. question/answer segment

23. Was the temperature in the meeting room comfortable for the audience?

    a. yes
    b. no

24. Was the meeting room free of distracting noise?

    a. yes
    b. no

25. About how many hours did you spend in promoting the videoconference?

    a. less than 1 hour
    b. 1 to less than 3 hours
    c. 3 to less than 5 hours
    d. 5 to less than 7 hours
    e. 7 hours or more

26. About how many hours did you prepare for your teaching responsibilities as seminar leader? (Please do not include time spent in registration or other non-teaching tasks done as part of the videoconference.)

    a. less than 1 hour
    b. 1 hour to less than 3 hours
    c. 3 hours to less than 5 hours
    d. 5 hours to less than 7 hours
    e. 7 hours or more

27. Please add any additional comments you may have.

APPENDIX C

DESCRIPTIONS OF ON-SITE SEMINAR LEADERS

TABLE VII

AGES OF ON-SITE SEMINAR LEADERS

Sample	20-29 Years	30-39 Years	40-49 Years	50-59 Years	60+ Years
Total Sample (N=32)					
Number	5	10	14	3	-
Percent	15.6	31.2	43.8	9.4	-
Experimental Group (N=18)					
Number	1	5	10	2	-
Percent	3.1	15.6	31.3	6.3	-
Control Group (N=14)					
Number	4	5	4	1	-
Percent	12.5	15.6	12.5	3.1	-

APPENDIX D

DESCRIPTIONS OF PARTICIPANTS

TABLE VIII

PARTICIPANTS' PREVIOUS PARTICIPATION IN
COOPERATIVE EXTENSION SERVICE PROGRAMS

Sample	At least once/month	About every other month	2-3 times per year	Never
Total Sample				
(N=217)				
Number	33	5	54	125
Percent	15.2	2.3	24.9	57.6
Experimental Group				
(N=140)				
Number	28	3	36	73
Percent	12.9	1.4	16.6	33.6
Control Group				
(N=77)				
Number	5	2	18	52
Percent	2.3	.9	8.3	24.0

TABLE IX

LENGTH OF PARTICIPANTS' INVOLVEMENT
IN A HOME-BASED BUSINESS

Sample	Less than 6 mos.	6 mos. to < 1 yr.	1 to < 2 yrs.	2 to < 4 yrs.	4 to < 6 yrs.	6+ yrs.
Total Sample (N=96)						
Number	33	12	14	11	6	20
Percent	15.2	5.5	6.5	5.1	2.8	9.2
Experimental Group (N=62)						
Number	20	7	8	8	6	13
Percent	9.2	3.2	3.7	3.7	2.8	6.0
Control Group (N=34)						
Number	13	5	6	3	-	7
Percent	6.0	2.3	2.8	1.4	-	3.2

TABLE X

AGES OF PARTICIPANTS

Sample	< 20 Years	20-29 Years	30-30 Years	40-49 Years	50-59 Years	60-69 Years	70+ Years
Total Sample (N=217)							
Number	1	29	69	52	46	15	5
Percent	.5	13.4	31.8	23.9	21.2	6.9	2.3
Experimental Group (N=140)							
Number	1	15	44	35	31	12	2
Percent	.5	6.9	20.3	16.1	14.3	5.5	.9
Control Group (N=77)							
Number	-	14	25	17	15	3	3
Percent	-	6.5	11.5	7.8	6.9	1.4	1.4

TABLE XI

EDUCATIONAL LEVEL OF PARTICIPANTS

Sample	No formal education	Grade school (8th grade)	Some high school	Finished high school	Some college	Finished bachelor degree	Some graduate work	Finished graduate degree
Total Sample (N=217)								
Number	-	1	10	45	85	35	19	22
Percent	-	.5	4.6	20.7	39.2	16.1	8.8	10.1
Experimental Group (N= 140)								
Number	-	1	5	25	54	28	14	13
Percent	-	.5	2.3	11.5	24.9	12.9	6.5	6.0
Control Group (N=77)								
Number	-	-	5	20	31	7	5	9
Percent	-	-	2.3	9.2	14.3	3.2	2.3	4.1

VITA

Renée Ann Daugherty

Candidate for the Degree of

Doctor of Philosophy

Thesis: TRAINING ON-SITE COORDINATORS FOR A VIDEO-
CONFERENCE ON HOME-BASED BUSINESSES

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