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Effective continuing education programs using television and videocassettes

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Effective continuing education programs using television and videocassettes

Abstract

Television has become a change agent. Its programming is designed to cause specific changes such as buying habits, and its intrusion into American life has contributed to changes in our life style.

Technological change is widening televisions' potential program options and producers, through cable-television access channels and the videocassette.

EFFECTIVE CONTINUING EDUCATION PROGRAMS
USING TELEVISION AND VIDEOCASSETTES

A Research Paper

Submitted to

The Department of Curriculum and Instruction

In Partial Fulfillment

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Master of Arts in Education

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by

Matthew James Darbyshire

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has been approved as meeting the research paper requirement for
the Degree of Master of Arts in Education.

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CHAPTER 1

INTRODUCTION

Television has become a change agent. Its programming is designed to cause specific changes such as buying habits, and its intrusion into American life has contributed to changes in our life style. Technological change is widening televisions' potential program options and producers, through cable-television access channels and the videocassette.

Commercial interests developed television as an entertainment tool to capture the attention of the viewer and then to present the product to be sold. This process has become more sophisticated as production methods and technology improved. Commercial television has been very successful. It has changed the viewer's habits and home life. As an example, compare home design before and after 1950. The front porch became a casualty of increased television viewing, as people moved inside to rooms that were designed for television viewing. In American homes the most frequently used room has the television in it, and the furniture in that room is oriented around a television receiver. Television became the primary communicator of information, cultural trends, and fashion styles for the American people.

Television's use by formal education lagged behind the commercial sector's use of television. It was viewed as a way to overcome teacher shortages and educate the general public. Large school systems established their own broadcasting stations. Colleges and universities offered courses for credit on television. Most

of these ventures failed because of a limited audience appeal, fluctuating funding, and a lack of conclusive evidence that television teaching was superior to the live instructor. The programing philosophy evolved to one that would appeal to a broader audience by using interesting, informative programs. Educational programs for the classroom have become supporting and enriching for use by the instructor rather than a replacement of the instructor.

The development of videotape greatly affected commercial and educational broadcasting, and sparked interest in the business sector. Industry was developing traditional training programs for employee education and improvement. Videotape offered an efficient way to piece together programs and preserve them for repeated presentation. The further development of portable equipment and the videocassette have only broadened the uses of television in industry and the other sectors.

The current trend is to increased television usage by all interests; advertising, education and business. The videocassette technology and competition among the manufacturers are making videocassette playback machines economically feasible at all levels of business and education and in many consumer households.

A factor which unifies all the producers of television programing is the desire to communicate. Advertising, education and business interests want their target audiences to learn and retain the information that is presented. Effectove communication with the viewer is the result of planning. Good planning involves research, knowledge, direction, and objectives. A

communication model and production planning principles provide the guidelines for designing an effective communication.

Advertising, business, and education use television extensively to communicate to their audiences. Further discussions of communication and planning will omit one of them and combine the other two. This paper will attempt to present research and production planning discussions concerning television communications that are intended to impart knowledge or are educational in purpose. It will not be concerned with television that is designed for attitude change, such as advertising and entertainment programs.

The videocassette, as a major innovation, is increasing the television usage by business and education in their continuing education programs. It is the purpose of this paper to examine the research about continuing education and educational television in order to combine the effective elements of both, and discuss how this combination could be applied with communication theory and production planning principles to design continuing education programs on videocassette.

The terminology of television is confusing since each area that is involved with it applies its own definitions to it. The definitions that follow are intended to be explanatory for their application in this paper.

Continuing Education. Job related education, experience, workshops, and travel encouraged or sponsored by educational and business organizations to further train their members and thus improve the output of that organization.

Videotape. A medium on which both a television picture and an accompanying audio signal are recorded on a magnetic tape for storage and repeated use when played on a machine designed to decode those magnetic signals and project them on a television screen.

Videocassette. Videotape that is packaged in a plastic case, transported on two reels and handled only by the machine during all functions, record, play, fast-forward or rewind. The most common videocassette formats include 3/4" U-matic, 1/2" Betamax, and 1/2" VHS (video home system).

CHAPTER II

REVIEW OF LITERATURE

Televised Instruction. Teaching by television was experimented with in the mid-1930's at the State University of Iowa (University of Iowa), Iowa City, Iowa. Television began to develop rapidly after World War II. Commercial interests applied for most of the available channels in the late 1940's. Educational interests were not promoted until a committee of educators representing several educational groups was formed. The Joint Council on Educational Television (Gordon, 11,p.17) appealed to the Federal Communications Commission (FCC) in 1952 to reserve a segment of the remaining television channels in all areas of the country provided that the licenses were applied for within a certain time period.

In the early days of educational television local school districts and colleges operated their own stations. The Des Moines Public Schools operated their own channel for the schools in their district (Diamond, 7,p.192) for about ten years. Iowa State University in the early 1950's was one of the first stations in the country to offer televised courses to the public for credit. (Meaney, 15,p.7)

Production funding was always a problem. The Federal government provided little or no assistance in those early days. The Ford Foundation was the benefactor of early educational television.(Gordon, 11,p.22) That foundation has contributed about 300 million dollars to educational television efforts since 1950.(Wood,18,p.39) That money bought equipment, sponsored research and financed many program

series, and set up distribution systems.

The type of programing that was offered in those early days of educational television was similar to formal classroom instruction. It was basically a talking face that lectured an entire course. Teachers in the receiving classroom mainly tried to answer student's questions and gave tests. The planning and pace of the instruction was pre-determined and inflexible. Teachers had some input in the local school district planning and production, but generally content was out of their hands.

Teachers resisted being replaced in the classroom by television sets. Student needs for a slower or faster pace of instruction and for feedback by the instructor were not being met. (Gordon,11, p.26) Those problems for teachers and students with televised instruction slowed the acceptance of complete courses in the classroom.

Educational television, nationally, was plagued by a lack of organization and clear purpose in those early years. In 1967, President Johnson signed into law the Public Broadcasting Act. This act established the Corporation for Public Broadcasting. It charged the corporation with aiding, organizing and coordinating new and existing educational television facilities. It also was to administer some funds.(Wood,18,p.67) The year the Public Broadcasting Act was passed there were 125 educational television stations in existence, serving about six million homes. It was determined that the viewers were primarily in the higher income brackets and were better educated. In 1978, there were 278 educational stations reaching about 30 million homes whose viewers were much more representative of the whole population.(Blakely,3,p.192)

The new law and organization brought about changes in philosophy and purpose for educational television. Early educational television attempted to formally educate the general public and even offered them college credit. Such a broad objective was to find limited acceptance among the general public. Local school districts were attempting district-wide instruction of entire subjects using local production, and not having much success.

Public television today has attempted to combine and refine those early efforts. It broadcasts programs in the public interest with the goal of enriching its audience. The Public Broadcasting Network produces a large variety of daytime programs designed to supplement classroom instruction by the teacher. It offers short programs which have been tested and evaluated, that are then selected by the classroom instructor to supplement the regular curriculum.

The teacher is still the primary organizer of instruction, setting its pace, and planning for a few minutes of supplemental and enrichment programming as it fits into his schedule. The classroom teacher is provided with complete course outlines for the programs. If a videocassette recorder is available, the instructor can record a program, preview its content, and show it at the appropriate instructional moment. The videocassette player/recorder is the tool for complete and efficient utilization of educational broadcasting. It allows the instructor to be flexible and selective in their use of the programming.

Programing in the 1980's is more interesting to the students than the early educational programs. Educational research into learning styles has been applied to the production of current series. Redundant, attention demanding, short segments are offered for elementary audiences. Dramatizations and simulations are used with older audiences. Students pay more attention to the programs because the production methods of the programs are more sophisticated. In addition, the audiences are studied carefully during the planning, testing and evaluation of the programs.

The use of television in education and business and industry has increased dramatically since the early 1970's. One reason for this increase was the development and introduction of the videocassette. The videocassette and smaller format tapes made portable equipment possible. All of the communication markets began to utilize the portable videocassette, including commercial television, business, and education.

Videocassette technology has made tape loading, handling, storage and editing of videotape much easier. Players and recorders became smaller, lighter, and easier to load and operate. Other improvements included the color camera, automatic iris, and in-camera filters for varied light conditions.

All of these improvements were ultimately aimed at the consumer market. As a result of the increased competition for consumer dollars, the price of a videocassette player/recorder has been lowered to less than one-thousand dollars. This makes a machine competitive with top quality 16mm projectors, while the videocassette is more flexible and its software is much cheaper.

The rapid entry of the videocassette into the highly competitive consumer market has created problems. The recording time war and the nonstandard 1/2" format was the result. Early videocassette machines were 3/4" in tape width and were capable of being played in a standard machine, U-matic. This meant that videocassettes recorded on one machine brand could be successfully played on another brand U-matic machine with little loss in quality. The drawback to the U-matic format was that the maximum playing time of the tape was 60 minutes.

The next major technological development was the 1/2" videocassette. Competition among manufacturers resulted in two formats, Beta and VHS (video home system). These formats have basic differences in cassette size and tape transport mechanisms. The result is that they are incompatible. Programs recorded on Beta machines could not be played on VHS machines. Originally, the machines recorded at speeds that limited Beta playback time to one hour, and VHS to two hours. The videotape time war began, and now machines have speed options that regulate the speed and allow recording/playback times of five and six hours. This would seem to be an advantage at first, but the tape transport had to be slowed down to achieve these long playback times. Slower, smaller width magnetic tapes result in poorer recording quality and greater chances for tape jamming and head fouling. In addition, some of the early 1/2" machines couldn't play tapes made on the same brand/format machine at the slower speeds.

Currently, the 1/2" videocassette technology is unstable and

nonstandardized as the manufacturers compete for the consumer market. The 3/4" format is being more widely used for first generation production in commercial television, business and industry, and the educational program market. There are still many U-matic machines in educational institutions. When a smaller format tape is needed, then it is dubbed from a 3/4" master to the appropriate format. Education usually doesn't require the longer play or record time for most of its classes since few classes meet for more than 50 minutes.

The videocassette has been widely used in continuing education by business and industry while teacher inservice has lagged behind. Business and industry use the videocassette for training, sales demonstrations, orientations and information about company programs. Real estate offices are videotaping tours of homes for playback to clients in the comfort of the office. Fashion houses are distributing videofashion magazines on videotape that show models in motion and natural surroundings wearing the clothing. (Charney, 4, p. 28) The National School Board Association is developing a videojournal, The School Leader's Videojournal, that would present issues of interest to local school boards throughout the country. (see Appendix A)

Education has limited its use of the videocassette in its continuing education programs to a few courses and workshops or videotaping educational television programs for delayed broadcast. Some teacher training and teacher evaluation has been accomplished through a technique called micro-teaching. The subject is

videotaped presenting a prepared lesson to a small audience. The tape is then evaluated by a supervisor and the presenter, to help improve the delivery of the presenter or any other teaching skill they may want to work on.

The primary advantage of videocassette playback over live broadcast is its permanence. The videocassette can be used many times and replayed to the same audience in its entirety or just some selected parts. Keep this advantage in mind during the following discussion of the research about television. The mechanics of live versus videotaped programs are different, but both are presented on a television screen. Research about learner response to television instruction should be as applicable to videotaped programs as it is to live broadcasts.

Television Research. Research into instructional television has explored such areas as, viewing conditions, subject matter appropriateness, comparisons to traditional teaching, and attitudes toward the use of television. (Chu, 5, p. 1) A comprehensive review of research about television was published in 1967 by Godwin Chu and Wilbur Schramm. Their review was updated and published again in 1975. The research that had been done during that interim did not differ from their original summary, but only supported and clarified it.

Chu and Schramm's method was to compile all the research about television, categorize it and tabulate the number of positive, no significant difference, and negative results. Generally, with consideration to the number of studies and their variety, research

has been unable to show any appreciable difference between live instruction and television classes in teaching effectiveness. (Gordon, 11,p.83)

Research indicates that under favorable conditions children can learn from television.(Chu,5,p.11) Those favorable conditions involve such things as, good viewing conditions, lack of distracting audible noise, a logical continuous visual presentation, subtitles, motivating conditions, immediate feedback and most importantly, teacher directed follow-up and close integration of the television presentation with the regular classroom curriculum. (Chu,5,Chapter 2)

Chu and Schramm note that almost nowhere in the world does television carry the entire weight of teaching, (Chu,5,p.10) Rather it is supplemented by, or supplemental to discussion groups under supervision. It is also supplemented by teacher-directed activity, home correspondence study (with printed materials), some feedback activity or mechanism associated with an instructor, or used as a part of the instructional hour. What this indicates is that a supplemental program guide, supervised discussion or occasional live visits are needed to promote efficient learning by the student in a television course. (Chu,5,pp.13-15)

Television presentations were most effective and liked the best by elementary students. Effectiveness decreased through high school age students and continued through to college where the highest percentage of no significant differences between live and television courses was recorded. (Gordon,11,p.85) Teachers

who initially responded negatively to televised instruction, became more positive and even liked it when they had been exposed to, or used television in the classroom. (Gordon,11,p.91)

The preparation of television teachers and teachers using television is important. Delivery style and course organization need to be modified for effective presentation on television. To be effective, the classroom teacher needs a comprehensive guide of the course content to integrate the course into the regular curriculum. The course guide should include activities to motivate the learners before viewing, as well as follow up questions and activities to extend program content. (Chu,5,p.19)

Courses which lend themselves to one-way communication have been the most successful in television. (Chu,5,p.8) However, history, literature, and the humanities have had the least success with students. (Gordon,11,p.85) Feedback, the two-way communication between the learner and the instructor, is an important factor in effective instruction with advanced students and complicated material. (Chu,5,p.50) The lack of feedback using television instruction is its most frequent criticism by both teachers and students. Instructional innovators have attempted to use technology to correct the feedback problem. Such things as teletype or televised question writing devices for the students or telephone/microphone talkback systems have been tried during live television presentations. Research indicates that showing a program, evaluating it, and revision of it based on the results can help substitute for live feedback. (Chu,5,p.50) This has special

significance when the program is on videocassette. Without pre-testing and post-course evaluation/revision a feedback problem could occur and the course may be less effective.

Testing and evaluation may help with the feedback to the instructor problem. Feedback to the student is the other part of the two-way communication in the classroom. It's logical that students given immediate feedback will learn more. (Chu,5,p.52) One method of dealing with that problem might be to videotape a course being taught with actual students present. The viewer would be able to benefit from questions and discussion actually generated in class sessions. A second or additional option might be toll-free telephone office hours, arranged by the instructor to answer student questions or clarify a concept. Student/teacher feedback is a problem that will require a multi-faceted approach including careful course planning, testing and evaluation, the anticipation of questions and difficulties and any other reasonable idea or technology that will facilitate understanding of the course content.

Continuing Education. Continuing education for teachers and in the business world is not a recent development, it has been around in one form or another for several years. The continuing education of teachers has been a concern of administrators since the passage of the compulsory attendance and reform laws in the late nineteenth century. The early emphasis was to have the teacher acquire more preparation in a specific content area. (Edelfelt, 8,p.11) A great majority of teachers in the United States had received college training by the early 1930's. The emphasis

shifted to inservice for teachers that was designed, planned and conducted by administrators. The main purpose of that inservice education continues to be the remediation of teacher deficiencies in subject matter areas. (Edelfelt,8,p.12)

Continuing education for teachers hasn't changed in the last forty years. Inservice is still required of teachers, mandated by state education departments, and prescribed by local school districts. It is often conducted during the free time of teachers at their own expense. (Edelfelt,8,p.14)

Business and industry have traditionally handled employee education in two ways, learning from a skilled experienced employee and on-the-job training. A new employee got one or the other, but seldom both types of training. That employee may find that he is lacking in proper preparation for his task. This slows his development into an efficient worker.

An experienced employee often is confronted with new technology, a new process or a redefined(combined) job task due to innovation and progress. The problem here is that, there is no one to show the experienced worker the new task. an additional problem is the attitude of the experienced worker towards the new task may slow his learning of that task and subsequent application of that task in the work situation. The training and development coordinator of a company has the task of designing a continuing education program for both types of worker, and dealing with attitude change to achieve full productivity.

The research concerning continuing education is primarily

done in education. The education sector has been trying a more formal approach to preservice and inservice education than business and industry. The findings can be successfully applied to the business sector since they also have recognized the need for a more formal continuing education process.

One deficiency of inservice education is its content. It is used to introduce new curriculums, beef up old curriculums and introduce new trends in education. Continuing education seldom helps individual teachers improve their skills in instruction or more adequately prepare teachers to deal with many new roles they have thrust upon them in addition to the role of teacher. (Edelfelt,8,p.17)

The success of a continuing education program for teachers would be aided by a master plan, general objectives, assessment of teacher needs, and the involvement of teachers. (Beachner,2, p.199) The teachers should be the key figures in the planning and assessment of needs for any program.

Research has shown that school-based continuing education programs are more effective than college-based programs. Teachers that are planners and assist in developing the programs and who have an active role during the instruction show the most behavior change. Programs for teachers should be individualized and allow participants to choose goals and activities for themselves. Finally, programs that incorporate demonstrations, role playing, supervised trials, and immediate and long-term feedback seem to be the most successful in accomplishing objectives. (Edelfelt,8,p.18-19)

The most successful classroom practices for teaching students seem to be effective in the continuing education of teachers. The improvement of continuing education should focus on teacher needs. Teachers should be involved in the formulation of a master plan for inservice and implementing individual programs. Successful inservice should be carried out in the teachers' own district rather than at a college or remote location. Business and industry should also recognize that employee input and individualization are critical to the success of a continuing education program.

Experience and observation have produced a large body of research about televised instruction. One aspect of these discussions is the advantages and limitations of using television for instruction.

The perceived limitations of television derive from concerns that were raised from the very beginning of television teaching over thirty years ago. It was maintained that television couldn't replace the most effective learning form, the two-way communication between the teacher and the student. Student feedback and the instructor's confirmation needed to be immediate. Television doesn't allow discussion of the content of the presentation, its just a talking face. (Crow,6,p.14)

Rapidly rising production costs have brought up new concerns. Is the teacher preparation time, high production costs and the risk of replacing teacher's jobs with television sets worth the benefits of televised instruction? Even the advocates of television

will admit that not all tasks and all subjects can be adequately presented by television. Considered with a high percentage of research findings that show no significant difference between live and televised instruction, is television teaching really worth while?(Gordon,11,p.85)

Think about the resarch results from a different perspective. The words, no significant difference, can also be phrased to mean that television's not any better or worse than live instruction. There are situations where live, face-to-face instruction isn't possible or practical. They might include situations that would involve long distances for students to travel to a college classroom, or very large classes or many sections of a class with only a few instructors that are available. A television reciever and a videocassette player should be thought of as tools for doing a job or dealing with a need, as another piece of media hardware to help communicate meaning to an intended audience. Used as a tool, instead of a solution for educational problems, television can help create an effective instructional plan.

The benefits of television have been apparent to some educators from the beginning and have been increased by technological innovations. Using the videocassette, televised instruction can be preserved, replayed and easily distributed. Many types of media including slides, filmstrips, films,static art, and printed materials can be brought together into one presentation with audio and avoid all the problems of operating the individual pieces of equipment. (Crow,6,p.13) Television production techniques necessitate a well-

planned and organized course. Television can bring the instructors face closer to the student and show each student a close-up of any visual aid. The instructor can also use television to evaluate his own teaching and course organization for possible improvement of his techniques. (Meaney,15,p.22)

An outstanding lecturer or guest speaker can be made readily available to a large number of students via television and videocassette. The picture can be slowed down or stopped for a moment using such features as Betascan or freeze-frame, so students could study an image longer. Television can be produced and distributed in a shorter time than almost any other media and updated very quickly, so its information can be kept current. When using videocassettes, the software can be erased and reused several times with little loss in quality, (Crow,6,p.11)

The videocassette is becoming a very flexible instructional tool. Flexible, because it can incorporate all the other visual media plus special effects into a logical message with motion, slow motion, fast motion or stop motion. The software is never touched by human hands and is small, easy to store and ship. The tapes are reusable and the machines can be loaded and operated by a child. We don't have to teach people to pay attention to the television screen since they have been trained to do that by commercial television.

Television's greatest limitation is its screen size. Twenty-seven inches is the largest screen that projects a high quality, bright image. Solid state electronics may provide the answer to

this screen size problem, but its too expensive to be practical at this time.

Summary of Research. The research concerning continuing education and educational television has developed many positive factors to make instruction more efficient. Continuing education must be oriented to the individuals' needs and the individual must be involved in the planning of the program. Educational television and continuing education have more success when the individual is motivated, given feedback frequently and is involved with relevant follow-up activities after the presentation. Educational television presentations also are more effective when distractions are kept at a minimum, subtitles are used to reinforce key concepts and the content follows a logical sequence.

CHAPTER III

DISCUSSION AND APPLICATION

The purpose of this paper, as stated in the introduction, was to examine the research about continuing education and educational television in order to combine the effective elements of both, and discuss how this combination could be applied with communication theory and production planning principles to design continuing education programs on videocassette. This chapter will attempt to accomplish that by beginning with a discussion of a communication model and production planning principles. Next the possible uses and applications in business and industry will be discussed. This will be followed by a specific application in a business setting. Then some program examples from business and education will be reviewed. A similar treatment (applications and a specific program) for education will follow the program examples. Finally the author will offer an opinion about the future trends that will affect continuing education by videocassette.

A model for communication provides a formal concept to apply in each communication situation. Its a method used in the early stages of production planning to allow for all eventualities. The planner is the source of the communication. He develops the message to be sent and chooses the channel for its transmission to the receiver. The planner must know everything possible about the receiver in order to structure the message to fit the educational level, attitude and learning style of the receiver. He must also

use his knowledge of communication and of the receiver to select an effective channel or channels to convey that message to the receiver. The burden of effective channel or channels to convey that message to the receiver. The burden of effective communication is on the source. He must possess sufficient knowledge, skills and forethought to get his message through to the receiver.

The planner must begin with a clear idea of what is to be presented to the receiver and a way of evaluating the success of the communication, or in other words, specific objectives. This is the first step in the production planning process. Next, the planner must gather as much knowledge about the receiver from all available sources as is possible in a reasonable amount of time. A questionnaire, survey of literature, and direct observation and interaction with the audience (receiver) would constitute several methods of gathering data. This data would be used to evaluate the audience's attitudes, strengths and limitations and will ultimately determine the structure of the communication and the available channels that can be used.

The treatment of the communication would be developed as the next step. This treatment would include the scope or how much and what type of information will be presented along with an indication of what channels would be used. Channels might include print, audio, visual, audio-visual, oral, demonstration, and hands-on experiences or a combination of them. The sequence of ideas would be developed from the treatment and the first drafts of the scripts. Production becomes more practical at this time. Physical

facilities, props, technical personnel and equipment needs must be detailed in the production plan. The initial estimates of the costs of the production are detailed in a budget.

The next part of the production sequence is the presentation of the communication to a representative audience. The effectiveness of the presentation is evaluated through testing and observation. The objectives outlined during the initial stages of production should provide the standards for comparison. If the presentation doesn't meet those objectives then changes must be made and further evaluation of the communication be conducted before it is distributed.

There are several elements of the inservice/continuing education subject that should be considered before deciding on the videocassette as the presentation mode. These elements include the stability of the subject matter, its presentation style, what it requires from the viewer, and how the information is going to be used by the viewer. Other information that must enter into the decision making process include audience factors, the physical facilities available for viewing, the availability of equipment, and the need for and provisions necessary for feedback. The selection of the subject will be discussed in some detail as an example of how these factors should be considered.

A subject matter is considered to be stable if its basic facts or premises don't change over a reasonable amount of time. Something that changes every year such as income tax laws would be costly to present since new programs would have to be produced each year. A class in human anatomy or astronomy is relatively

stable by comparison. The new information that emerges in those fields probably won't affect the basic premises of the subjects and could wait two or three years for a series revision or be updated with one new segment each year.

Each subject has characteristics that determine the best presentation style for good communication. For example, a human relations class might be most effectively taught as a guided discussion. Sciences might require lecture and laboratory sessions. A teaching methods could consist of lecture, classroom observation, role-modeling, and micro-teaching with feedback. A philosophy course may be most efficiently presented as a lecture. The point to consider is, that human beings learn in many different ways and a planner must be flexible when producing a message.

The television and videocassettes could be used as part of or all of the teaching mode in the presentation examples previously mentioned. The human relations course could use videotapes of other groups in discussion to demonstrate or stimulate effective discussion. A prominent theorist could be videotaped lecturing, and then using his methods with a group. The viewing group could view themselves and learn to discuss or communicate more effectively.

A biology course lecture or demonstration could be pre-taped and thereby free up the instructor for more laboratory sessions or small group discussion. The teaching methods course could save time by taping and editing classroom observations for classroom discussion. Pre-service teachers would then practice their teaching

skills while being taped and actually be able to evaluate their own instruction. Students who could view themselves could eliminate distracting mannerisms, improve eye-contact and focus on what impact their message was having on the audience.

Feedback is a major factor in the success of a communication. Television presentations limit the opportunities for the student to ask a question and get an immediate answer from the presenter. Televised instruction must include specific plans for student and teacher interaction to help eliminate barriers to good communication. Extensive testing and revision of a course with a representative audience can anticipate many areas of confusion and help provide for the lack of feedback to the student.

Other methods of dealing with feedback include telephone talk-back systems for live broadcasts, pre-arranged toll-free telephone office hours, frequent visits by the instructor to the remote viewing classroom, and trained discussion leaders in each classroom provided with course and lecture note outlines. The limitations of alternative feedback systems are, that they involve extra expense, manpower and equipment which detract from the advantages of using videotape.

Review of Existing Videocassette Programs. To illustrate how the research and technology of television is being utilized, a selected review of some representative programs from business and education will be presented.

A recent study polled the larger American businesses (1600 employees or more) about their use of television for communication and training. The return rate for the questionnaire was a little low (16%), but the results and statistics seem to be representative and not too far out of line. Users of television with their own production facilities represented 43% of the respondents. Users of television that hired out their production added up to an additional 13% of the sample. Businesses who used other media for communication and training and used television for advertising or other purposes made up the remaining 44% of the respondents and were labeled as non-users. (Gruebel, 12, p. 48)

The users group employed an average of 3.7 full-time people in their video services departments. The programming subjects included training and development as the most common production followed by management communication programs, employee orientation, news and information, promotional/product demonstrations, training and job skills, proficiency upgrading and safety. The average number of programs produced annually totaled eighteen. (Gruebel, 12, p. 49)

New equipment purchases tended to be 3/4" videocassette recorders and color cameras. Of almost 5,000 recorders owned by the users, 94% were 3/4" and 6% were 1/2" with that group being divided among reel-to-reel, Beta and VHS units. The 3/4" videocassette format was being widely used for production in business and industry in 1978 and the trend seemed to be toward more usage. (Gruebel, 12, p. 50)

International Business Machines (IBM) produces about two

hundred videotapes a year for internal distribution. It maintains its own production studio. Programing includes market support, management communications, employee relations and education or training. Programs are short, 10 to 20 minutes in length, and are usually individual presentations, panels or documentary treatments. They are designed to bond together the worldwide organization and the tapes are distributed to over 600 locations. There is much large group viewing, and IBM is interested in the development of large screen projection equipment. Instructional television is used to supplement meetings with accompanying discussion, activity questions and reading. (Barwick,1,p.12)

The First National City Bank in New York City had a closed-circuit television system in use in their main bank building. There they produced a company news program that was shown three times daily to the employees. Its purpose was to provide the employees with information useful on the job and in the home. Growing out of this basic news program was the idea to present features on preventive health care. The series began with a program on hypertension and expanded into a nine segment series. Feedback from the medical department indicated that employees were stopping in more frequently for blood-pressure checks and mentioning the health series as their motivation. The management of the bank felt the series justified itself in lower health insurance costs and an improved image of the company with its employees. (Marlow,14.p.28)

A large oil drilling contractor has an unusual video production facility. SEDCO produces an average of 20 training programs/series a year for distribution to its offshore drilling rigs around the world. The content is primarily training for the operation and maintenance of equipment with some entertainment programs also. All production is done on location with a single portable camera and videocassette recorder. Narration and sound mixing facilities are rented when they are needed. The tapes are assembled in the same manner as motion picture film, using A and B roll copies, that are time coded, and computer assembled. This is an example of a cost efficient operation that serves a specific need and audience with very little equipment. (ed. Yuhas,9,p.52)

Televised instruction is widely used in American colleges, according to the Higher Education Utilization Study conducted by the Corporation for Public Broadcasting. Most of the colleges returned the questionnaire (94%) and the results showed that three-quarters of the reporting schools used television. A high percentage (86%) of those colleges which were using television offered courses for credit or used television as a supplement to instruction. The mean number of courses offered by television was nine and median was four. On-campus instruction accounted for 44% of the courses and off-campus instruction for 11% of the courses offered for credit. In 1978-1979 nearly half-a-million students were enrolled in 7,000 courses offered on television. (ed. Hitchens, 10,p.55)

The Tele-Tutorial series of videotapes was developed at Iowa State University, Ames, Iowa, to teach basic media skills. The amount of content material in the basic media course had become so large that the students weren't getting enough hands-on experience with the equipment in the laboratory. Seven videotapes were produced using a programmed instruction format that presented to and questioned the student about production processes and equipment operation. The students were encouraged to view the tapes as many times as necessary and then hand in a worksheet as evidence of their efforts. The advantages of using videocassettes for the media skills tapes, included more uniformity of course content across sections and instructors, less set-up time before class meetings, less storage and handling of props for demonstrations, more flexible pacing of instruction for the students since they could view the tapes many times and the close-up viewing of production techniques and demonstrations that was impossible in class.

Evaluation of the videocassettes by the students revealed that the programs should have been shortened to 20 minutes while the pace and presentation style could be faster paced. Plans for future productions included reducing some of the program units to single concepts, five to eight minutes long. Students would be directed to specific programs by their results on a pretest so they would only be working on skills that they needed help on. (Volker, 17, p. 51)

The Peoria School of Medicine at the University of Illinois used television to solve their faculty time availability problems and provide more instruction for the students. They wanted to conduct group diagnosis discussions in small groups, but didn't have enough faculty or time to adequately introduce the discussion problem and supervise the discussions. Using a broadcast studio and nine receiving locations, one instructor could efficiently and equally present the case study to the discussion groups. Only one set of materials, x-rays and specimens, needed to be prepared. The materials could be shown as a close-up to each group for more complete viewing of detail by the television camera.

An intercom system connected all the receiver locations with the broadcast facility. If a student had a question about the case they could communicate directly with the presenter and the rest of the groups could benefit from the discussion. This format reduced instructor time and increased the number of diagnosis sessions the students could participate in. (Jesse,13,p.48)

The final program to be reviewed offers a master's degree by videocassette. The University of Massachusetts offers a full master's degree program in computer and electrical engineering by a home study course that is mailed or delivered by courier to the student. A few campus visits are required for evaluation of the student's progress. The student has a week to view the tape before sending it back. This allows the student maximum flexibility for business trip interruptions, repeated viewings, fewer missed

classes and no work conflicts. The videotapes are produced during actual on-campus classes and include student questions and responses. On-site tutors are available to answer any questions the student might have. Companies often sponsor or pay for the course work and provide release time at work for students to view the tapes. Some instructors prepare their notes and have printed copies to accompany the tapes. The program promotes the engineering school by getting it exposure in the professional field with engineers. (Scott,16,p.16)

Business Applications. There are many possible applications and uses for videocassettes in continuing education. In any situation where business needs to train or re-train an employee to benefit the company, the employee, or both: a continuing education program can help. From the employee's point of view, he needs to understand the health and insurance benefits that are provided, or be aware of self-help programs offered by the company. Technical skills and procedures that are common to several jobs in a company would benefit from videocassette presentation, since the instructors time can be more efficiently utilized using television. The company could present programs promoting better health habits such as regular check-ups, exercise, diet and the warning signs of serious illness and broadcast them during coffee breaks and lunch hours. New policies, changes or annual reports could be introduced to the employees by a company closed-circuit channel. Those countless memos that all look alike and gather dust on bulletin

boards, might get more attention if presented on television in a news show format.

Many companies use videocassette technology in their current training programs, however a broader application might help solve their communication problems. Consider, the problems of an advertising novelty company located in Iowa. The nature of their products and services requires a personal visit to the customer by their area sales representatives. That salesman's effectiveness is going to affect his own company and the business he is selling to. Advertising novelties has become more than pens and matchbooks with the company's name on them. Many businesses give away baseball caps, cowboy hats, jackets, calendars, cooking utensils, calculators, and other items as premiums in appreciation of their customer's order.

The training of the salesmen is of great importance to the success of this novelty business. Effective sales techniques are important skills to learn, but the salesman must be familiar with the novelty company's production capabilities before he makes promises he can't keep. Presently the company has a new employee orientation that includes using videocassettes while role-playing a sales situation. Often that's the last contact for training with that salesman for months. The turnover of area representatives is very high. Many times a new employee is hired and works for months before they have a chance to attend the company orientation program.

The problem is the communication with and the training of these area representatives. Videocassettes could close this gap between the salesmen and the company. Some programs that would aid communications would include, new product previews, sales techniques, evaluating the clients market in order to tailor the product for his specific needs, interviews with home office personnel that the salesman deals with on the phone, sales tips from district managers, tax tips for the salesmen, video tours of the plant production areas, or of a particular production process for the salesman and the customer, video reports from new product conventions, and any other program which would help the salesman relate to the company and be more effective.

Programs could be developed to sell directly to the customer with the salesman supplementing the presentation with samples. The objective of such programs would be to reduce personnel turnover. Every salesman that leaves the company takes customers with him, and keeps other clients from being adequately served while a new person is being hired and trained. The videocassette programs could make the salesman more effective, increasing his commission, and reducing his job frustration, and improving his retention. A personalized approach on the programs from the home office might make the viewer feel like he belonged more with that company in effect he would identify with that company. Videocassette programs would cut down on valuable travel time to the home office for area representatives for training, orientation and product briefings.

Educational Applications. Teachers have pursued continuing education through advanced degree work during the summer months. Not all teachers have been able to attend summer sessions and that has resulted in university extension courses being offered at remote locations. There are several problems with these two options. Iowa's winter weather inhibits travel even to remote locations for classes. The courses offered depend upon the demand for the course at the remote sites, and not every teacher needs the courses being offered. The universities have some difficulty in persuading enough faculty members to teach at remote sites and that also limits the course offerings for extension courses. Transportation costs for attendees and instructors are rising and becoming a factor to consider when taking a course.

An alternative to high transportation costs and limited course offerings could be solved through the emerging communications technology and the small format videocassette. A workshop or college course on videocassette could be sent to a remote site by courier or through the mail. Once there it could be scheduled for group and individual viewing. The accompanying facilitator's guide and course outline would help provide answers to questions, references for expanded study and continuity from one session to another. Periodic visits by a representative of the college or the instructor, would help to monitor progress in the programs such as evaluations and to answer student questions.

There are many possible advantages to courses by videocassette. They include convenience, reduced travel and travel time, the

the opportunity for repeated viewings of the course, smaller class sizes would still make it feasible to offer courses at more sites, more courses could be offered, and instructors might not be as hesitant to prepare courses for extension if they didn't have to travel as much.

Continuing education using videocassettes would also be an opportunity to offer single-concept workshops with the specific objective of improving all aspects of classroom teaching. Some possible subjects might be, discipline in the classroom, improving course structure and delivery, integrating media effectively, using new media, evaluation techniques, dealing with changing roles, parent-teacher relations and conferences, new content and methods in specific subject areas and any other subject that would be of an interest and help to teachers.

The demand for extension courses from a university reveals that during a two-year period, four regular semesters and two summer sessions, the university conducted an average of 37 courses in 20 Iowa cities to 727 students at a cost of \$50,000 each semester. (Appendix B) The costs included instructor salaries, transportation, lodging, instructional materials and meals. The demand figures for one small university illustrate two trends. The demand for remote extension courses is increasing and the costs are rising even faster. Higher education is going to have less money to hire instructors, as a result remote courses either must be dropped or a more cost effective way to present them be found.

The videocassette could meet this need for courses that have a high demand such as required courses at the graduate level, or the human relations course for classroom teachers required by many state education departments.

Summary. The demand for continuing education increases faster than education's ability to fill the need. The videocassette is becoming a cost effective way to present courses in great demand by business and education. Adherence to a communication model and sound production planning principles in conjunction with a valid testing program, will result in an effective presentation on videocassette.

The future will include more choices open to the television viewer. Cable television, local access channels, video-text, and even satellite antenna systems will provide alternatives to stagnant commercial broadcasting. People will be regarding their television sets as valuable information sources and will have the additional flexibility of videocassette recorders and video-disc as they become more common. In effect the delivery system for communications of a wide variety will exist and the burden will be on education to develop the software to help Americans adjust to change in a technological society.

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NATIONAL SCHOOL BOARDS ASSOCIATION

1055 Thomas Jefferson Street, N.W., Suite 600, Washington, D.C. 20007 / (202) 337-7666

July 3, 1980

Mr. Roger A. Kueter
Associate Professor
Department of Curriculum and
Instruction
University of Northern Iowa
Cedar Falls, Iowa 50613

Dear Mr. Kueter:

Thank you for your interest in The School Leader's Videojournal.

Because plans are going forward to refine and improve the product to render it as useful as possible to its users, NSBA is delaying the launching of regular issueing of the videojournal. Consequently, we cannot provide you with additional information about this service at the present time.

We very much appreciate your interest in NSBA.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lee VanBremen", written over a horizontal line.

Lee VanBremen
Assistant Executive Director

LVB:kr

Enc.



UNIVERSITY OF NORTHERN IOWA · Cedar Falls, Iowa 50613

Department of Curriculum and Instruction
REA 319 273-2167

June 27, 1980

Producer, The School Leaders' Videojournal
National School Boards Association
1005 Thomas Jefferson Street, N.W.
Washington, D.C. 20007

Sir:

Your recent advertisement for the Videojournal was routed to me by a colleague who knows of my interest in such developments. I have anticipated the production of a videomazine in education for some time.

I am an instructional developer/media instructor at the University of Northern Iowa. New developments in communications are of a special interest to me. Your enterprise is the first education videojournal to my knowledge in the country.

I am very interested in any further printed materials you have which might deal with the projected format of your videojournal or with information about the target audience. I would be willing to pay for postage or duplication costs of any printed material you could send me.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Roger A. Kueter', written in a cursive style.

Roger A. Kueter
Associate Professor

RAK:bb

Appendix B

University of Northern Iowa
Extension Courses at Remote Locations
Academic Years 1978-1979

	Fall 1977	Spring 1978	Summer 1978	Fall 1978	Spring 1979	Summer 1979	avg. (total)
Total Costs \$	35,000	44,000	46,000	41,000	70,000	60,000	49,333 (296,000)
Students	401	516	697	412	1317	1020	727 (4363)
Cities	15	16	13	15	35	26	20 (120)
Courses	30	33	38	28	55	42	37 (226)