DOCUMENT RESUME

ED 246 890 IR 011 222

TITLE	Video as a Medium for Sharing Experience. Opportunities to Learn No. 1.
INSTITUTION	Association for Educational Communications and Technology, Washington, D.C.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	6 May 83
CONTRACT	300-81-0421
NOTE	19p.; Contained in ED 235 794.
PUB TYPE	Viewpoints (120) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Basic Skills; Communications Satellites; Design Requirements; Federal Programs; *Information Dissemination; Microcomputers; Program Development; Program Evaluation; *Technological Advancement; *Technology Transfer; *Teleconferencing; Television Research; Television Viewing; *Videotape Recordings
IDENTIFIERS	*Project BEST

ABSTRACT

Satellite telecasts and videotape are discussed in this two-part paper, which is based on the preliminary experiences of Project BEST (Basic Education Skills through Technology), a dissemination project for communicating about the use of technology in teaching basic skills, and providing functional experience with new information communication technologies. The first section covers the project's experiences with conducting three satellite teleconferences, which were originally designed as work sessions to involve project staff and state team members in the development of video modules and other awareness/training materials. Problems in the perception of the medium as a presentation medium rather than a communication medium are discussed, and some general thoughts, perceptions, and rules-of-thumb about video teleconferences are offered. The second section discusses videotape as an "experience-linker" and describes the development of videotaped materials for state use with local schools. These videotapes would document the key experiences of school practitioners who have been using microcomputers effectively in basic skills education. Observations in this section focus on what the viewer brings to the viewing experience, capturing and portraying the multidimensions of reality, and unanticipated consequences. Issues related to holding viewers' attention are also examined. (LMM)

Project

Basic Education Skills through Technology

READING • WRITING • MATHEMATICS
LANGUAGE ARTS

. . . Opportunities to LEARN

No. 1

VIDEO as a Medium for Sharing Experiences

May 6, 1983

Prepared under Contract No. 300-81-0421

U.S. Department of Education
OERI/OLLT/DET

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VIDEO AS A MEDIUM FOR SHARING EXPERIENCE

"...In addition to giving us a reason and opportunity to communicate with each other, we will also have an opportunity to learn about the potentials, effects, and consequences of these technologies we'll be using..."

Project BEST orientation videotape, June 1982.

PURPOSE

Learning is an exciting process when our own experiences provide the information that feeds the process. Unfortunately, once we leave childhood we rely increasingly on information derived from other people's experiences (research, publications, etc.). Opportunities for direct experience with totally new situations become infrequent. In that sense one of the "fortunate" aspects of living through this early stage of the information technology revolution is that the research and previous experience do not exist. We have to give credence to our own feelings, judgements and perceptions.

One of Project BEST's purposes is to stimulate that personal process--to use the new technologies as tools in the conduct of project work, then to provide opportunities to reflect on that use and to see what can be learned from our own reactions. The intent of this paper is to trigger and expand that reflective process.

During this year we have systematically solicited and collected your feedback by phone, mail and electronic mail. We have also documented our own perceptions. These reactions have been an invaluable element of

this process. They have allowed us to reflect on our original intentions and assumptions, as well as our actions, and to ask "why?". Our answers to that question are presented in this first "learnings" paper. We hope they prompt reactions and further exchange that will allow this process to better inform the future technology decisions each of us may be called upon to make.

INTRODUCTION

People are usually surprised when we tell them that Project BEST is not a "microcomputer" project, for most of the content of our communication deals with this revolutionary new technology. Our own view of the project's purpose is more accurately portrayed in our logo--"People-to- People: the BEST Approach." We are attempting to use information technologies to connect people who share similar concerns in ways that will facilitate their ability to solve their own problems. In January 1982, the project described its intentions as follows:

> As a dissemination project, Project BEST is in the business of communication--communicating about technology. As Drucker notes, real communication is not created by technology. Technology can only provide the links or structures that extend, enhance, and/or connect certain mutual needs to exchange information. Each of the project's uses of technology, therefore, will be determined within a broader context of the purposes of the two-way communication of which it is part....
>
> ...We will choose our media against the reference point of what we are trying to accomplish and communicate (about both the content and the medium we are using to communicate it). Our choices also will be functionally appropriate to the task in which the project and the states are engaged. Task-relating the technology is important to counteract the history of "technology demonstrations" where the participants' role is limited to observation or "playing" with the technology. Thus they possibly come away impressed, but with no personal experience that ties the technology to the real world conditions they face.
>
> ...We will provide functional experience with the new information communication technologies so that participants can experience the benefits and generalize them to their own situations.

We now have a year's experience using four technologies to address project communication needs:

- satellite telecasts for broad dissemination of materials and expertise;
- videotape to record current school experience with the new technologies;
- electronic mail for point-to-point exchange and access to current resource lists; and
- audio teleconferences for interaction, questioning, and idea exchange.

The subjects of this paper are the two video technologies. A second paper, to be distributed as part of the June, 1983 Project BEST teleconference, will address the more interactive technologies of electronic mail and audio conferencing.

The framework for presenting the information on each of the video technologies is:

- our intentions and assumptions;
- our observations of what occurred; and
- our reflections, generalizations and tentative learnings.

SATELLITE TELECONFERENCES: PRESENTATION OR COMMUNICATION?

1. Intentions

When Project BEST was being developed the thought was that the teleconferences would serve as work sessions involving project staff and state team members. The focus for the live communication exchange would be the video modules and other awareness/training materials that the project was developing for SEA use.

> The satellite video teleconference will serve as a meeting between the developers and users of the video materials. During the teleconference, contextual information will be presented about issues or principles involved in the examples through discussion with experts and, in some cases, the educators involved in the practice. Underlying issues related to the use of the materials will also be discussed.

At this point in the project, with three satellite video "teleconferences" under our belts and two more being developed, we can look at what actually happened and begin to ask "why"?

2. Observations

Expectations for, and early applications of, any new tool are shaped by prior experiences with similar tools, by presumptions of purpose, and even by the terminology used.

In the January 1982 project design document, we noted that "the term 'teleconference' is beginning to take on generic meanings that make it difficult to know what is being described when it is used." We now have the personal experience to confirm that. It is increasingly popular to label anything that is broadcast via satellite as a teleconference. Yet the greatest share of what is transmitted this way (on our teleconferences, and those of others we have viewed) is one-way presentation that does not contain (or sometimes even need) the viewer interaction that the term "conference" implies.

We have observed that this general use of the label "teleconference" can raise expectations in the viewer's mind that can result in dissatisfaction with a presentation that was never intended to be anything more than a presentation.

It has appeared, at times, that the confusion about terminology is paralleled by a similar lack of clarity about the purposes or role of the satellite telecast. This confusion seems to affect both the producers and the receivers of the information. For example, because the information is transmitted and received as "television", it is easy to perceive the activity in terms of the medium as we have known it until now--that is, a presentation as opposed to a communication medium. In most purposeful television presentations, audience needs and characteristics are anticipated but not specifically known. Audiences, therefore, are perceived in general broad terms such as "elementary teachers", "SEA staff", etc. Because the specific audience needs are not known it must be assumed that the presentation may "miss" some viewers who may neither want nor need the information. Consequently, production effort must be devoted to techniques to capture and hold attention.

Satellite telecasts however are not usually aimed at general audiences. Typically they have a more limited target audience who is known, can be specifically described, and whose needs can be more directly determined (e.g., Project BEST state team leaders, state reading specialists). In these cases, it may be assumed that the audience members want to receive or give information or they would not take part in the activity. The audience can be perceived and dealt with as participants, not viewers.

At these times the television activity can be perceived in a communications context with direct effects on both the content and production techniques.

One direct consequence of "old rules" and assumptions being applied to a new situation appears to be a failure to employ for effective communication several of the advantages that are inherent to satellite telecasting. These are:

- the effectiveness of organized audio and video presentations;
- the relatively low total cost for its use when the expense of moving people to one central meeting location is factored in; and

- the lack of time limitations usually found on open-circuit broadcast channels.

Instead, these same features sometimes are applied to producing longer, one-way presentations of information as well as "shotgun" presentations (reach as many as possible with as much information as possible). Token interaction may be included, and appears to be based on an assumption that interaction means an exchange between presenter and receiver. Usually only one person at a site has access to a phone or microphone, and even then, there is seldom sufficient time for all sites to participate fully.

We have noted more effective interaction (i.e., in terms of contributing to the communications purposes of the teleconference) when the interaction can be among viewing sites or among the participants at any one site.

3. Reflections, Generalizations and Tentative Learnings

As part of determining how satellite telecasts might facilitate Project BEST communications, we have begun to develop some general thoughts, perceptions and rules-of-thumb about video teleconferences (i.e., telecasts used in an interactive communications context).

As we reviewed a number of teleconferences from education and business organizations (as well as our own), we became aware of some similarities and differences in the ways that teleconferences were being used by these two sectors. First, teleconferences are, in the main, being used as purposeful tools by organizations with a communications problem or task. This led us to look at the broader picture of the types of communications problems all organizations deal with. It was here that we noted that two communication systems exist in most of our work settings. One, formal communications channels and mechanisms provided to ensure that decisions are carried out efficiently. Most of the information flow through these channels is one-way. Second, and co-existing with these formal organizational channels, is an informal system of communications. Most of an organization's problems are resolved via these channels. Why? The channels, or linkages, are

purpose or task-related, the participants have more control over the structure of the system and the content, it is more interactive, and there is a greater degree of trust because the participants know one another. Yet this process is seldom given legitimacy as a "system" and is kept relatively invisible.

Nevertheless, when we looked at where teleconferencing and other interactive telecommunications media appeared to be of most value today, it was apparent that it was for these "informal" organizational communications. (Note the increasing number of television commercials for audio and video teleconferencing--they always show a group of people who know one another in a problem-solving situation.) Yet in education, as opposed to industry, the largest proportion of video teleconferences that we observed were employing the medium for formal, predominantly one-way, organizational communication (e.g., to announce a decision, present new information, etc.). Interactivity, when it was included, was usually of the clarifying or challenging question type. Time for it was usually tacked on, was too short and too limited, i.e., only one person at each site could talk.

Why does education seem to differ from industry in using these technologies to enhance its own capabilities to resolve its problems? Two reasons may be:

- Most educational professionals are dealt with as "independent practitioners." They do not have jobs that legitimately require them to interact with individuals outside their offices or classrooms to solve problems. This latter type of interaction is done, usually on one's own time, at professional meetings, through phone calls to peers, and indirectly via access to research.
- In education there is relatively less experience using telecommunications (till now, television and radio) as a management problem-solving tool. Over the years, the earnest endeavors to discover unique contributions of these media to teaching and learning have focused more on the content of education than its process. The concern has been more for what and how to present information to students via media than how to solve the problems that constrain good teaching and learning situations. Telecommunications technologies, therefore, have had few opportunities to be used for improving the lot of those who deal on a daily basis with the problems of "running the shop."

Some aspects of the above situations are not going to change right away. Most of us in education will continue to solve our problems primarily with the resources available at our sites. However, there are educators who frequently conduct work with individuals who are separated by distance. Among these are the two primary organizational participants of Project BEST--state education agencies and educational professional associations.

The question is whether we can begin to apply this technology to the processes of education that we influence. Can we take the little bit we already know about interactive telecommunications from our life-long experience--for example, with telephones--and combine it with what we know is effective with small work groups? Can we provide functional models for ourselves and our members or constituents from which we all can learn?

What could the benefits be? Many have said that education cannot be changed. True, but that is not the same as saying that education cannot change itself... if it had a way to connect itself to its own resources to solve its own problems. This is not centralization, but rather connecting decentralized decision-makers so that they have access to each other's experience to enhance local decisions.

To further that end, here are some of the rules of thumb we are developing for our own use in producing Project BEST's satellite video teleconferences:

1. Transmission of a video presentation by satellite may add an air of importance to an activity. However, the novelty quickly wears off if the information being presented does not meet a need of those receiving it. We now have the capability to deliver information to specific individuals and groups to meet specific needs. Be clear about the purposes of the satellite telecast and its relationship to the needs of the primary audience(s).
2. Do not be afraid to be "too specific." Understanding of any particular information is enhanced when the presenter structures it toward a specific need. This does not mean that others cannot also receive and understand that information. We do this every day--learning from information intended for others. It is the clarity resulting from having a specific target that produces the more effective presentation of the information.

3. Determine the organizational relationships of the participants and how the teleconference relates to their work.

   -- Are the reception sites organizationally under the "control" of those developing the presentation? Is the purpose to have them all get the same things out of the activity?

   -- Is there a national agenda that is structuring the meeting? Or is the television presentation supporting local agendas at each reception site?

4. If the receiving sites are, in fact, "participants" and not semi-passive "viewers," you will need a receiving site spokesperson who does more than manage logistics. If the centrally-televised portion of the conference is to be useful, you will need a way to anticipate its relevance to the varying local situations. After all, it will be their objectives for the meeting (not yours alone) that determine whether your communication is successful.

5. Be clear about the nature and extent of interaction that will be possible. Make sure that the teleconference participants have these same expectations.

   Interaction with the presenters of the material is no more necessary for video presentations by satellite than it is for video presentations by cable, broadcast, or other means. Interaction or involvement with the ideas being presented is important, however, for effective communication. Interaction can serve several needs of the participants:

   -- to clarify information through questions;

   -- to internalize information through discussion; and

   -- to add to or exchange information.

   Determining who should be involved in the interaction should be one of the first considerations for the satellite video communicator. Options include:

   -- discussion among participants at each viewing site;

   -- interaction among viewing sites; and

   -- interaction between viewing sites and the presenters.

   When the interaction takes place should also be considered. Unless there is some developmental purpose for feeding information back into the "live" communication process, it does not necessarily have to be part of the satellite broadcast.

6. Does every video element have to be part of the real-time telecast? Consider transmitting ahead of time those presentational portions that might be shown at the local site at other times, before or after the broadcast.

7. Make sure the human relationships that the telecommunications linkage is reinforcing are provided for--that is:

   -- Don't expect open communication if the participants don't, to some extent, know or trust one another.

   -- Don't expect a common response unless participants have a mutual concern or need.

   -- Expect to devote some effort to verifying and/or establishing these relationships before the teleconference. It will ensure communication and decrease the need for nonfunctional attention holding television production techniques.

VIDEOTAPE AS AN EXPERIENCE-LINKER

1. Intentions

Project BEST's plan to develop videotaped materials that states could use with local schools responds to three conditions. First is the lack of a research or experience base for schools to turn to as they consider the use of microcomputers. They have to rely on each other, as evidenced by the great number of local user networks and new practitioner-oriented computer magazines and newsletters. Second is the evolving nature of the information schools are seeking. Changes in hardware and software and continuing development of new classroom applications make it practically impossible to provide specific how-to-do-it information. Moreover, what most people really seek is sufficient data to give them the confidence to make their own decisions. This type of information can include the fact that others are making similar decisions without great risk, or that they already have the data to make the decision but did not realize it.

Third, and finally, the project recognizes that television is not a medium best used for communicating "facts" As Neil Postman has noted, television presents experience, not commentaries about experience.* Consequently, it makes sense to capitalize on this strength of the medium and use it to deal with the current need for experience exchange in local schools. Thus an early Project BEST planning document stated:

> Videotape Case Studies
>
> These videotapes will document the key experiences of school practitioners who have been using microcomputers effectively in basic skills education. They will be short, organized in a manner that will allow variations in use, and not become out-dated in a short time.
>
> Each video module will be designed for an audience of adults who work in or with education. These people know what children look like and are not turned on by pictures of kids being happy with hardware (although a review of most "demonstration" materials might suggest otherwise). What they seek instead

*"Engaging Students in the Great Conversation", Phi Delta Kappan, January 1983

(observe their behavior in meetings with peers) is information from others in situations like theirs, for example:

-- what the technology allows them to do or accomplish;
-- what's involved and how they handle it;
-- how they feel;
-- what didn't work and what they learned from it;
-- what constraints they had to deal with and how.

The project set out to develop four of these videotapes or modules. Each tape was designed to address a concern of local educators that was likely to continue for a number of years. The topics selected were:

- getting started with the new technologies;
- learning and teaching about computers;
- deciding about hardware and software; and
- teaching with microcomputers

Each tape module illustrates how a number of schools with varying resource bases dealt with a common issue. (Six very different school districts served as sites for videotaping: Cincinnati, Ohio; Plains, Montana; Cupertino, California; Fairfax County, Virginia; Albany, Ohio; and Ann Arbor, Michigan.) The final modules are intended to be used as triggers--that is, to create the interest and awareness necessary to motivate viewers to seek further information, appropriate and relevant to their specific situations.

At the point where these observations and tentative generalizations are being documented, all of the field taping is completed. However, only one of the modules has been disseminated to the states, one is part of the May teleconference activities, and the remaining two will be completed in time for the June activites. The following should be read, therefore, remembering these limitations on the extent of our present experience.

2. Observations

A. What the Viewer Brings to the Viewing Experience: We have noted that people with local school experience react to the modules differently than those with other orientations. This might have been expected. To communicate effectively, one has to find a "handle" in the mind of the receiver to grab hold of. Since our primary audience is at the local school level, we chose problems and experiences that most local educators would immediately relate to (e.g., parent pressures, feelings when students know more than teachers, troubles getting technology to work the way it's supposed to). These may not be issues that policy makers, academics, or technology specialists find of primary importance.

Without one's own experience to link and give meaning to the information on the videotape, a viewer might see nothing but the pictures on the screen. Instead of triggering personal pictures of possibilities in the viewer's mind, the tape would appear to contain nothing but talking heads and computer classrooms.

B. Capturing and Portraying the Multi-Dimensions of Reality: Printed articles and case studies can seldom capture the multi-dimensional realities of a school. When we made the first of our two visits to each school district, we quickly discovered that the printed materials and references on which we had based our site selection had seldom captured the complete picture of what was happening. By their nature, articles and other printed materials reflect the point of view of the writer, intentionally or not.

Whether or not the video modules will better capture the multi-dimensional reality of the school is yet to be seen. The potential is there. In several cases, we were able to get varying points of view on the same event that can be used for contrast or to show the range of perception and understanding that can exist.

C. Unanticipated Consequences: Our taping produced unanticipated effects on the school districts we visited. The interview process was structured to elicit what it was like to be that person at that time in that specific situation. We wanted people to talk only about what they knew from their own experience, not what they believed others should do.

To get this information, the interview process focused on specific issues or concerns but within a personal framework of what the speaker had done or was doing, what his/her problems were, and what he/she had learned from them.

This reflective process proved successful in generating the type of experiential narrative that communicates so effectively.* It had unanticipated effects for the schools we visited, however. In almost every case, we have received direct feedback that the reflective act of providing information to us gave the districts new insights that resulted in improvements in their activities.

Thus the situation at each site is no longer what it was when we visited it. This is an additional reason not to view the video modules as case studies of the districts visited.

3. Generalizations

We believe we are learning something about the value of television for connecting people so they may profit from each other's experiences. We are also learning something about the effects of education's 25-year ITV experience on our perceptions of "good" and "bad" use of the medium.

Television is an attention-centered medium. Information goes by only once. You can't go back, scan, and repeat as with printed material.** If information is to be communicated by television the mind of a viewer must be kept "connected' to the picture and sound.

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*Recent brain research suggests that the mind organizes information in a narrative format. It tries to understand and make sense of information by tying it together into a logical "story." This may explain why some people find information encapsulated in personal experiences easy to recall.

**This is less true with TV via tape or disc, but it still requires more energy and time than the almost-instantaneous process of glancing back at a page.

Techniques such as pacing, visual effects, interesting compositions, etc., can help. These are only enhancements however. The basic "connector" must come from the viewers themselves. They must want or be interested in what is being communicated. One of the strongest connectors is a perception that the information is useful and relevant to one's own needs.

The dilemma we had to face in putting the modules together from the taped personal interviews was whether or not persons talking about their own experiences would hold viewers' attention. Did they need to be enhanced with semi-related pictures that attempted to recreate what was being described?

From our own ITV experience, many of us have an aversion to what we saw as "talking heads." This may be because in the past these were heads that were talking about rather than recreating the experience. In many cases, television teachers played the role they had played in the classroom--presenting information about others' experiences. Since, as noted earlier, TV is a poor medium for talking about experience, pictures and production effects had to be added to capture and hold viewer attention. The "talking head" became a "no-no."

What we may have missed by mindlessly applying that rule is that there were teachers and others on television, or in a classroom, who seemed to hold the students' attention without additional effects. These were individuals for whom the subject matter was their life. They loved and lived their subject to the extent that facts came out flavored with human feelings. The subject matter was their experience. When this was coupled with dramatic ability, the viewer could be made part of that experience (Leo Buscaglia can serve as a current example). Both information and feelings could be communicated. In this type of situation, the medium achieves what it does best. It links the viewer's mind directly to the presenter's experience.

Our experience, so far, with Project BEST video materials tends to confirm this view. Individuals directly involved in an activity can communicate, via TV, a sense of what they have experienced to a degree no less than is achieved when one makes a personal visit to a school. Viewers can come away with information and feelings.

This does not mean that these types of videotaped materials should be all "talking heads," or that we are not concerned about the pictorial quality of what is on the video tapes. On the contrary, we are very concerned about a "talking head," but it is not necessarily the one on the screen. Rather it is the little voice in the head of the viewer--the voice that provides continuing commentary on what is being seen and heard. Ideally, the TV communicator wants this voice to be "in sync" with the information being presented. Communication is blocked when the little voice starts making social commentary or wondering about elements of the picture that have little to do with the message being communicated. This type of "talking head" continues to be a continuing concern for us--to know, for example, when a picture of children using computers in a classroom will enhance what a teacher is saying about her particular classroom application, and when it will start the little "talking head" noting what brands of computers are used, how many girls are in the class, etc.

DIALOGUE

We have provided in this paper examples of what we are learning from the Project BEST experience with two specific video technologies. While many of these thoughts derive from your reactions and feedback, we do not presume that these are the same things you may be learning. We do know, however, that we can both learn more if we can exchange our views.

Not all of you may want or need to think about the issues we have dealt with here. For those of you who do, we will welcome your reactions. To continue the dialogue, we will synthesize your comments and feed them back to those of you who indicate interest.