Interactive Video for Extension

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What Is Interactive Video?

Interactivity comes in many shapes and sizes. Some programs are more interactive than others and some interactivity is more helpful to learning than other types. A basic definition of an interactive video program is "a program that requires participation by the viewer." This participation can take the form of making choices about which parts of the program to watch, taking a quiz on information contained in a part of the program, asking for a further explanation about a particular segment of the program, and so on.

A key point to consider is that interactivity must be looked at both in terms of quantity and quality. The *quantity* of interaction refers to the number of opportunities the user has to interact with the program. The *quality* of the interactivity refers to what type of input the user makes to the system. A program that gives the user 50 opportunities to give yes or no answers to questions may not be as truly interactive as a program that gives less opportunity for interaction but allows the user to make decisions about what parts of the program he sees, whether or not he wants to be tested on the material, or allows him to input key words or phrases instead of just yes or no.

The difference between interactive information delivery and more conventional or "linear" information delivery is that with linear programs a viewer must watch from beginning to end with no choice about where he starts or finishes or how he progresses through the material. Typical linear materials are films or television programs.

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An interactive video program can be formatted in a variety of ways, depending on the intended use and the objectives of the program. One of the most common methods is for the program to begin with a short textual or narrative explanation of the program. This is usually followed by a menu, or table of contents. The viewer can then choose where he wants to start in the program. If your program is designed to be used in an informal application then the person will simply be shown what he asks for. If the progam is part of a formalized training package, you could require that the viewer pass a test on certain information, thereby proving that he does not need to view the introductory material.

If the viewer does poorly on the test, the program could include remedial video sequence that concentrates on the information he needs to know. Then the viewer might be tested again or go on to a new sequence of information. Or an activity could be substituted for the test portion of the program. Some interactive systems allow you to program in the capability to have the viewer's performance of a task automatically recorded by a camera. This capability can be quite useful in determining how well the viewer is learning the skills you are trying to teach.

This information-quiz-feedback cycle can be repeated throughout the program until the viewer has watched the entire videotape. More sophisticated interactive designs may require the viewer to make decisions at certain points in the program. He will then see certain segments that show the results of his decision. If the decision was a wrong one the segment would demonstrate why and then ask him to make another choice. You can decide in your program design how many opportunities you want to give the viewer to find the right answer before you show him the proper decision. No two people would see the same information unless they made the same choices throughout the program.

Guidelines for Creating an Interactive Program

The first step in planning for an interactive microcomputer/video program is no different than planning for most other educational materials. You must decide upon your goal for the project and determine your audience. You need to be certain about the results you want to achieve with your program. For example, you might want to reduce the losses of newborn calves by teaching ranchers how to recognize the

early signs of some common newborn calf diseases and by giving them the information they need to treat them. Or you might want to improve farmers' ability to diagnose combine problems. Establish the goal clearly in your mind and then visualize the results in terms of your audience. Now back up and determine how you are going to bring your audience to the point where they can do what you want.

During this process you should be constructing a flowchart that takes you step by step with the user through your material. At this stage, determine what type of program you want to develop. How many options are you going to present your audience at each stopping point in the program? How many plausible wrong answers are you going to have the computer accept? Are you going to provide a possible selection of answers to choose from or will you require the user to type in a key work or group of words to answer the question? How many variations of spelling or variations in wording should the computer accept? What will be the result of each wrong answer—will they all result in the user being forced to view the same remedial segment? Or will each wrong answer result in a different segment being accessed?

This is particularly important in that many systems limit what they will allow you to do. For example, in a linear programming format, information is presented, questions are posed, feedback is given. Then a new information segment is presented and the cycle begins again. With a single-branching design, the system will only allow you to send users to one remedial segment. This means that no matter what type of wrong answer is provided by the user, he will be shown the same remedial segment. This may be a usable format in some instances but certainly not in many others.

Multiple branching allows each wrong answer to be treated differently. Depending on the answer provided, a different video segment would be shown for each one. A correct answer would simply receive a positive feedback response and the user would proceed with the program. In most of these systems you can also choose where you send the user in the program after he has watched the remedial segment.

You should try to construct your program as a series of interrelated short segments. Any remedial segments or additional information segments must be constructed so they can be understood by the person who was not able to under-stand the original sequence. Remember, each person may take a different path through the material, yet all of these

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their wheat fields, or can fruit. In the not too distant future they will be able to access this information from their homes.

Another advantage of the interactive microcomputer/video information delivery system is that it can keep track of what information users are asking for, how quickly they are learning the information, and what information they don't understand. This gives the specialist the ability to test the effectiveness of his training material and to modify it as necessary, based on the feedback he receives from the records kept by the computer. This can certainly be a valuable tool for Extension personnel in helping them to design more effective learning materials.

Everything I have mentioned up to this point about how an interactive microcomputer/video system can be used for Extension clientele can also be applied to internal staff training for Extension personnel. It would enable the Cooperative Extension Service to have a number of information updates or training packages in every county office for use by staff, volunteer leaders, and 4-H members at their convenience. The state or district specialist could periodically collect the test results and use this information in improving these materials.

Should You Get Involved in Production?

The potential for the use of interactive video in Cooperative Extension Service work is limited only by your imagination . . . but interactive video should not be viewed as the answer to all, or even most of our information delivery problems.

Is the clientele of the Cooperative Extension Service ready to receive information via this new method? My opinion is that they are. Even in a predominantly rural state like Idaho we find that farmers probably have as many home microcomputers as any other single segment of the state's population. Many of Idaho's homemakers have already been exposed to microcomputers via the Idaho Cooperative Extension Service's family budgeting and diet analysis computer programs. Idaho's youth are being exposed to microcomputers in their daily school activities and are undoubtedly more computer literate than a large number of their parents.

As good as it may sound, interactive video is definitely not something to jump into on a whim. The time, personnel, and expense needed to produce an effective interactive video

program demand a high degree of commitment on the part of your department and your college. Most of the people with experience in this field recommend a team approach to interactive video production. The suggested composition of this team varies from expert to expert but they have some common elements—a subject matter expert, such as a state Extension specialist, a video production specialist, a graphics specialist, and an instructional design specialist. A computer programmer may not be necessary because of the plethora of authoring systems on the market for use in programming interactive productions.

One of the most common mistakes made by new producers of interactive video programs, even large industrial corporations, is a failure to give adequate financial attention to the design of the program in favor of the hardware needed to deliver the program. Do yourself a favor. When you ask for money for producing an interactive program don't forget about the importance of the instructional design process. In fact, for your first project it might be helpful to build in some funding for consultation with an instructional designer who has already designed a number of interactive video programs. The money spent at this stage of the program development process will pay big dividends in terms of savings in expenses for video production and editing.

You can easily see that the decision to "go interactive" is not one which you can make alone. You'll first need to be able to demonstrate to your administrators and subject matter specialists how interactive video can do a more effective job of delivering information than the technique in current use. Then you'll need strong support from some of your colleagues and administrators to give you the resources you need.

My personal experience has shown that the most critical resource for producing an interactive video production is time. Lots and lots of time! People and money are great . . . but if you don't have the time to devote to an interactive video project you're better off contracting with one of the many production firms specializing in interactive video production. You need to resist the temptation to simply jump on the interactive video bandwagon just so you can say you are doing it. First study the literature on interactive video. See how industry and education are using this technique and learn from their successes and failures. Then study the information and training needs of your organization and see if interactive video can play a role in meeting these needs. If

the answer is yes, then try to determine if your organization can make the needed commitment in time, people, and dollars. If you are personally interested and if the organizational commitment is there as well, you'll be well on your way to one of the most challenging experiences of your professional life.

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