Evaluation of the Use of Water Quality Videotapes by County Extension Offices in Iowa

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All of the 100 county Extension offices in Iowa have a set of six water quality videotapes available for use by clientele. The state water quality Extension specialist designed the high quality tapes, each 20 minutes long, to be viewed at home by clients who had water questions. The question was: "Should videos be used again as an educational delivery method?" Responses to a telephone survey of county office assistants indicated a wide variation in the use of video tapes, although over 75% liked the idea of information via tapes. The counties needed assistance with publicity and displays, something that area media specialists might provide.

Introduction

Just as university professors have typically taught by lecture, Extension educators have typically used meetings, bulletins, and personal contacts. These delivery methods have worked well historically in transferring research from the land-grant university reservoir of knowledge to a receptive population (Rasmussen, 1989). However, current times call for current delivery methods. The last decade has witnessed a plethora of new technology, including computer programs, satellite programs, desktop publishing, and videos. Eighty percent of U.S. homes have at least one videocassette recorder, up from 65 percent in 1990 (Wall Street Journal, 3/11/93). If Extension is to survive as an educational institution, it needs to expand and enhance its use of a variety of teaching/learning strategies and find out which ones are best suited for specific topics, target audiences, and particular situations.

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This study evaluated the use of a set of six water quality videotapes developed for home use by Iowa's Extension water quality specialist and found that close to half of the offices had used them at least "some" (41%), with 10 percent using them "a lot." Most of the office assistants surveyed by telephone liked the idea of putting information on videos for home use and supported developing more sets similar to the water videos. However, the number of times the videos were used was very small relative to the number of requests for water information.

The videotapes were distributed, along with a set of pamphlets, to all 100 county Extension offices in Iowa in the fall of 1991. The tapes, each 20 minutes long, were designed to be viewed at home by Extension clients who were concerned about their water. The tapes were high quality and had received a national award. The purpose of the study was to find out if the tapes were being used. The first question asked was, "Are the water videos an appropriate alternative to answering individual questions in person or over the telephone?" The second question was, "Should this educational delivery method be used again?" Finding constraints in this delivery method would help make decisions on future use of home videos in Extension's transfer of information.

This study looked at videotapes as well as water videos. A videotape on water quality was considered an appropriate educational delivery method because of the widespread concern about groundwater drinkability in agricultural areas and the popularity of videocassette players. Some problems with water are natural, for example, high iron content; others, such as coliform bacteria contamination, come from animal and human waste; whereas others, such as pesticide or nitrate contamination, are a direct result of agricultural practices. When Extension redefined its mission to focus on issues, clientele identified water quality as one of eight key issues (Rasmussen, 1989).

The six water quality tapes covered hard water, red water, coliform bacteria, nitrate pollution, inorganic chemicals, and sulfur pollution. The tapes, each of which could stand alone, were designed to be viewed by individual Extension clients with specific questions. The plan was that a client who came to a county Extension office with a water question would be encouraged by the office assistant to check out and view at home one or more of the tapes. The county Extension offices were typically open from 8:00-noon and 1:00-4:30 (or 5:00) each weekday.

Methodology

The method was a telephone interview study that evaluated the use of videos and the checkout process from the viewpoint of the

Extension office assistants in a 50-percent random sample of county offices in Iowa (50 out of 100 counties). In two of the 50 offices, no one could be contacted about the tapes, leaving a response rate of 48/50 or 96 percent. Development of the telephone survey instrument included testing it with three offices that were not a part of the sample. The survey used a three-point rating scale, which limited the interpretation of the results. What some office assistants considered "A lot" or "Good," the highest ratings, others might consider "Some" or "Okay," the middle ratings. The descriptors for the bottom ratings were "Very little or none" and "Poor."

To eliminate interviewer bias, the same person, a graduate research assistant in the Department of Agricultural Education and Studies, conducted all of the telephone interviews, early in the mornings and within a two-month span in the late winter of 1993. The head office assistant answered the questions, except for three counties in which the office assistant either was unaware of the tapes or knew little about them. In those cases, one of the Extension professionals responded to the telephone interview. There were 21 closed-answer questions in the interviews plus an open-ended question and time for comments.

Other Extension Video Studies

The results of a home video pilot project (Elliot & Hamilton, 1988) with 11 counties in Iowa provided a basis for developing the telephone survey instrument used in this study. That pilot project used a variety of videos placed in three locations in each county: the Extension office, the public library, and a retail outlet. Users' reactions to the tapes and the process were measured by 337 reply cards, 773 viewers, and random sample telephone interviews with 33 users. Elliot and Hamilton (1988) reported what Extension clientele might look for in how-to videos, what use they made of such videos, and what the cost-effectiveness was for using videos as a method of disseminating information. Results indicated that only high-quality tapes had any success at all.

The videotape market was very competitive, and good promotion was a key to successful distribution of tapes. Tape usage was seasonal; fall and winter were prime viewing times. Cost seemed to be a factor because people expressed resentment paying as little as 50 cents for Extension videos at commercial outlets. The tapes most often used were those that taught a skill. Interest and enthusiasm of the staff affected the success of the program. Elliot and Hamilton (1988) recommended that program leaders work with specialists in identifying 10 to 15 topics best suited for delivery via video and then make those available statewide.

At least three Extension video studies have been done in states other than Iowa. Iams and Marion (1991) researched alternative delivery methods for environmental issues; Scherer (1988) made a large study (2,000 households) of the use of educational videos by people in upstate New York; and Johnson (1986) reported on experiments with videos at discount chains in Oregon. Iams and Marion (1991) found that 67 percent were willing to rent videos, with a majority of respondents willing to pay $1.00 to $2.99.

Over three-fourths of their respondents were concerned about safe water supplies, the highest-rated environmental and public policy issue in their study. Another finding was that willingness to rent environmental education videotapes was directly related to education level and inversely related to age. Iams and Marion (1991) concluded, "Extension faculty need to hone their skills in teaching about critical environmental issues like water quality by both live and taped television programming" (p. 15). Scherer (1988) discovered that the people who rent science and how-to videos are different from those who watch these same kinds of shows on television. He then asked:

> If these findings are true, in that there appears to be a potential in the need for educational and, especially, "how-to" TV fare by some segments of the TV audience—what is that gap? If a gap exists, can Extension video fill at least part of the demand? (Scherer, 1988, p. 25)

Scherer (1988) claimed that the true potential audience for informational tapes is relatively small and "the total number of cassettes (the Extension clientele) are likely to use may be extremely limited" (p. 26). He recommended that Extension be careful in developing and using videos as an educational delivery method.

Johnson (1986), an Extension media specialist, reported on two experiments he had done, placing Extension videos on food preservation and weatherization at Bi-Mart, a variety-store discount chain in Oregon. He reported being "moderately pleased" with food preservation videos and "disappointed" with tapes on weatherization.

Findings

Findings from this study were that 10 percent of the offices had used the water videotapes "a lot," and another 31 percent had used them "some," which means more than 40 percent of the offices had used the tapes, whereas more than half had used them little or none (Table 1). Use of the water videos was less than that of videos in general. There was a wide variation in their total usage since their distribution about a year ago. Seven of the offices had no usage.

Seven offices had 10 or more people use them. One office reported that they had been used 105 times. The median usage was four times (Figure 1). Office assistants were asked about the approximate number of water inquiries last year. One office reported none; the others ranged from 2 to 312 inquiries. A typical office received between 35 and 50 water inquiries a year (Figure 1). These numbers were estimates by the office assistants because only a few offices kept track of inquiries or use of tapes.

Table 1: Perceptions of Use of Home-Study Videotapes. (N=48 offices)

Category	N	%
Water video		
A lot	5	10
Some	15	31
Very little	20	42
None	8	17
Videos in general		
A lot	11	23
Some	22	46
Very little or none	15	31

Figure 1: Information on Water Quality Information

Number of inquiries last year:

Mean
- with anomalies: 55.3
- without anomalies: 46

Median: 35

Mode: 48

Distribution: 0 2 3 4 6 10 12 12 15 15 15 20 20 24 24 25 30 30 35 35 36 40 40 40 48 48 48 48 50 50 60 72 84 120 144 150 300 312 (Median)

Distribution example: 1 person used info 0 times, 1 person used info 2 times....

Number of times used:

Mean
- with anomaly: 6.5
- without anomaly: 4.4

Median: 4

Mode: 3, 7

Distribution: 0 0 0 0 0 0 0 1 1 1 2 2 2 2 2 3 3 3 3 3 3 3 4 4 4 5 5 5 5 5 5 5 6 6 6 6 6 6 8 10 10 10 12 12 25 105 (Median)

Use and Promotion of Videotapes in General

The number of videotapes available for use by clientele in each county in the spring of 1993 ranged from 20 to 200 with a mean of 67 and a median of 55. Only two offices had no video equipment; most had one to three video cassette recorders (VCRs), and half had a satellite downlink. Only eight percent reported that clients watched videos at the Extension office at least some of the time; most people took them home to watch. However, a majority of offices (88 percent) reported that they did have equipment and space available for clients to watch tapes on site.

All but one of the offices had used newspaper articles to promote the use of videotapes (Table 2). More than half had used radio, brochures, and newsletters. The office assistants wanted a standard display to present tapes (23 percent had problems with storing the tapes) and help with publicity. The need for more promotion was evident in the comments. Typical comments were "most people don't know we have them," "don't have time to promote ourselves," and "need better labels on tapes to promote and display better."

Table 2: Methods Used by County Offices to Promote Videotapes. (N=48)

Method	N	%
News article	47	96%
Radio	39	80%
Newsletter	28	57%
Brochure	26	53%
Other	14	29%
In-office display	12	24%
Library	3	6%
Video stores	1	2%

Assessment of the Delivery Process

Because the county office assistant is the initial contact with the client, his/her perceptions of the ease of the information delivery process is important to its success. Therefore, the researcher listened to the concerns expressed about the use of videotapes. His perception was that there was a vast difference between attitudes of the various office assistants toward the use of videotapes. Some obviously liked videotapes and spoke highly of the process. It was clear that they promoted the tapes to clientele who came to the office. Other counties were clearly not using videotapes; some even responded that tapes were not useful. It was obvious that the feeling and conceptions of the office assistants were affecting the use of the

tapes by clientele. All office assistants thought their checkout procedures were at least okay (Table 3), but they were not as satisfied with the check-in of tapes or the storage of the tapes. Eighty-eight percent rated the process of providing educational videotapes okay or good from their viewpoints, and 81 percent thought it was okay or good from the clients' views.

Table 3: Assessments by office assistants of the process of using videotapes. (N=48)

Process	N	%	Process	N	%
Check-out procedures			**Storage space**		
Good	32	65%	Good	22	45%
Okay	16	32.5%	Okay	15	30.5%
Poor	0	0%	Poor	11	22.5%
Check-in and rewinding of tapes			**Overall process—office assistant's view**		
Good	27	55%	Good	20	41%
Okay	16	32.5%	Okay	22	45%
Poor	5	10%	Poor	6	12%
Colored handouts			**Overall process—client's view**		
Good	21	43%	Good	24	49%
Okay	20	41%	Okay	15	30.5%
Poor	7	14%	Poor	9	18.5%

Perceptions of the Future for Educational Videotapes

Little has been done to evaluate either the process or the content of educational videotapes. This study found that only 15 percent of the offices were using evaluation cards with their videos, although 69 percent reported oral comments as videos were returned. Typical comments from the water tapes were: "Every person thought they were excellent," "Really answers questions, clears up questions on test results," and "Very good, very satisfied with knowledge, likes tapes sorted by problem." More than 90 percent recommended (some, 36 percent; a lot, 60 percent) developing similar sets, and two respondents identified a specific topic—the need for a tape on plugging wells. The respondents were even more positive about the general idea of delivering information on videos, with 98 percent liking the idea some (19 percent) or a lot (79 percent).

Conclusions and Recommendations

The number of tapes out in the county offices was large (20 to 200); however, counties differed in their use and promotion of tapes.

The number of inquiries about water problems were much greater than the use of tapes, an indication that clientele either were not made aware of the tapes or chose not to borrow them. Those people who did use the tapes made very positive comments about them. Some counties were obviously interested in increasing the use of tapes; others felt they were not useful and wanted a news bulletin instead. A major problem was displaying and promoting the videos. Most of the respondents felt that Extension should do a lot more to alert clientele to their availability, and many counties were anxious to be given help and guidance on promotion. For example, they would like to have a standard display to present tapes.

Recommendations were for the halftime Extension media specialists to coordinate the promotion of videotapes as educational tools. Each of Iowa's seven areas has a new halftime media specialist who might be able to assist counties with displays and publicity items.

References

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Evaluation: Water Quality Tapes

County Office_____
Date and Time_____
Telephone_____

Hello. Is this _____(person's name)? This is _____, calling from the Agricultural Education and Studies Department at Iowa State University. We are calling a sample of the Extension offices with a set of questions about your use of video tapes.

We want some information about how your office is using the set of six water quality video tapes that were sent to you a year ago.

Would you have about ten minutes to answer some questions about your video tapes?
(Mark one of the following, based on their answer)
_____ unaware of tapes

_____ aware of tapes, but knows little about their use
_____ aware of tapes, keeps track of their use

If answered by first or second response, ask: **Is there someone else in your office who could better answer my questions?**

_____Time/Date/Person

If reluctance is sensed, go to:

"Would it be better if we bypassed your office this time?" (If yes say, "Thank you. Maybe we'll try your office another time.")

Questions About Usage:
To your knowledge, how often have these tapes been used?
_____ A lot
_____ Some
_____ Very little or none
_____ Approximate number of times they have been used in total.
_____ Approximate number of times they have been used/month.
_____ Approximate number of water quality inquiries last year.

Where have they been used?
At the Extension office
_____ A lot _____ Some _____Very little or none

Check out to watch at home
_____ A lot _____ Some _____Very little or none

At meetings
_____ A lot _____ Some _____Very little or none

Number of meetings on water quality _____

How has your office promoted the use of video tapes for individuals to watch on their own either at home or at the Extension office? (Check all that apply)
_____ News article
_____ Radio
_____ Brochure
_____ In-office display
_____ Library
_____ Video-stores
_____ Newsletter
_____ Other

How would you rate your office's use of videos for individuals to watch on their own?
_____ A lot _____ Some _____Little or none

How would you rate your set-up for clients to view tapes in the office?

_____ Good equipment and space
_____ Okay equipment and space
_____ Poor or non-existent equipment and space

How many tapes do you have in your office? _____

How would you rate the following:
Storage space for tapes
_____ Good _____ Okay _____ Poor
Check-out procedures for tapes
_____ Good _____ Okay _____ Poor
Check-in and rewinding of tapes
_____ Good _____ Okay _____ Poor

From your standpoint, how would you rate the process of providing clients with educational video tapes?
_____ Good _____ Okay _____ Poor

From the standpoint of the client, how would you rate the process of providing clients with educational video tapes?
_____ Good _____ Okay _____ Poor

What evaluation procedures have you used to evaluate the content of videos?
_____ Evaluation cards with each video
_____ Oral comments as videos are returned
_____ Other

Do you have some ratings on the Water Quality tapes? If so, what?

What comments do you have about the Water Quality tapes?

How much have you liked the colored handouts provided with the videos?
_____ A lot _____ Some _____ Very little

How much do you like in general the idea of putting information on videos for clients to watch?
_____ A lot _____ Some _____ Very little

How much would you recommend developing more sets similar to the Water Quality videos?
_____ A lot _____ Some _____ Very little

What video equipment does your office have?
Kind Number

What other comments do you have?

Thank you very much. We appreciate your help.

Photo by Wolfgang Hoffman

Using a T-Max 400, Leica R at 1/30 second exposure with a 21 mm. Super Angulon lens, Wolfgang Hoffman captures the sweetness underlying an overcast spring day in this Critique & Award Program, Class 24 Black and White Photo Series Silver Award winner.