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## Video Cassette Recorders: An Educational Opportunity? Evidence from the Field

### Abstract

As the number of VCRs in American homes increases, apparent opportunities for their educational use by Extension also increase. An analysis of 634 video cassette owners found that those who rent more video cassettes are significantly more interested in Extension educational program topics than are those who own a VCR but rent few cassettes. Additional analysis suggests that educational and "how-to" specialty cassettes may be appealing to a previously unreached market segment. The study offers a cautious conclusion that there may be a limited, but significant clientele for Extension educational video cassettes.

# Video Cassette Recorders: An Educational Opportunity? Evidence from the Field

by Clifford W. Scherer

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The rapid adoption of video cassette recorders into American homes has surprised many observers and excited many Extension educators. With more than half of U.S. homes now equipped with VCRs (TV Digest, 1988), the opportunity for delivering educational programs to clients appears to be very high (Reider, 1985). But yet, the question remains: Will the public use VCRs for educational purposes? Or are TV and video so closely identified with entertainment that educational use is somehow limited?

These questions, of course, can't be answered definitively—only experience in the field over the next several years will provide the final answer. Yet we do have some evidence to help guide decisions—decisions which promise to be expensive for Extension if they are wrong.

The VCR is being used more and more by Extension, although Rich (1986) noted that there has been a recent decrease in the number of states which distribute video cassettes to country staff. Moving into the production and distribution of video cassettes is no small commitment for a state in terms of both staff and direct production costs. Yet, states are being forced to make decisions

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## Background

The video cassette recorder can be used for many things in the home including: 1) Shifting of programs to a more convenient time for viewing; 2) Controlling viewing content for children; 3) Replacing theatre movie attendance with home viewing; 4) Increasing viewing opportunities—recording one channel, while watching another channel; and, 5) Increasing the choice of TV content, including rental of movies and, of most interest to Extension, rental or home use of educational, science, or "how-to" programs.

The primary use of video in education has been in classrooms or meetings where the topic of discussion generally focuses on the content of the video. This, of course, is nothing new, since films have been used for years in this way. What is new, however, and the focus of our attention, is that with VCRs in homes, educators have an opportunity to provide material directly to interested individuals for use at their convenience—similar to Extension's traditional information delivery system where publications are made available to individuals for future reference.

This library function or retrievability of the video cassette was described by Levy and Fink (1984) in their early study of VCR adopters. A number of writers and researchers have speculated that the "how-to" and educational video cassette market would "explode" (see for example Riggs, 1986) as a result of this new opportunity. However, few studies have examined VCR users to determine the extent and nature of their "how-to" or educational cassette use.

In an effort to understand the potential of video cassettes for educational use, the present study looked at a sample of VCR adopters and their use of video cassettes.

Three research questions guided this study: 1) Who uses "how-to" and science (educational) video cassettes, and to what extent are they being used? 2) Are the users of science and "how-to" video cassettes also the viewers of science and "how-to" television, or are the audiences somehow different? And, 3) to what extent are VCR users interested in Extension program topics?

## Method

Data to explore these questions came from a study of 2,000 randomly selected New York households (New York City was not included). Using 12-page booklet type mail questionnaires

Scherer: Video Cassette Recorders: An Educational Opportunity? Evidence from a procedure described by Dillman (1978), responses were obtained from 1,140 households for a final adjusted response rate of 65%. Of these households, 634 or 55.6% owned a VCR. This is only slightly higher than the reported national penetration of 52% (TV Digest, 1988).

Video behaviors were measured by asking respondents how frequently they had rented movies, "how-to," and science videos in the past year. In addition, respondents were asked about frequency of viewing science and "how-to" cable or broadcast television programs. The science and "how-to" categories obviously aren't good descriptions of the nature of Extension videos. However, since Extension productions are likely to be somewhere between "how-to" productions and the more abstract educational or science programs such as Nova, an examination of individual viewing of these types of programs should provide information to enable an assessment of the potential of video use by Extension.

## Findings

Video cassette rental among the VCR owners in this study was quite high: 90% said they had rented movie cassettes, 19.2% said they had rented educational/science cassettes, and 19.5% said they had rented "how-to" cassettes at least once in the past year. Table 1, however, shows that the number of individuals renting a large number of educational or "how-to" cassettes is extremely limited. Only 2.9% of VCR owners had rented 5 or more "how-to" cassettes and 4.3% had rented 5 or more educational cassettes in the past year. This compares to 75% of the VCR owners who had rented 5 or more movie cassettes within the past year.

**Table 1. Frequency of renting video cassettes**

	Frequency of renting	Percent of VCR Owners
"How-to" video	Never	80.5%
	1 to 5 times	16.6
	More than 5 times	2.9
Science videos	Never	81.1
	1 to 5 times	14.6
	More than 5 times	4.3
Movie videos	Never	9.7
	1 to 5 times	15.3
	More than 5 times	75.0

Based on an analysis of 536 VCR owners.

An examination of age of cassette renters shows only minor differences with significant trends for movie renters and "how-

to" cassettes. In both cases more frequent renters were significantly younger: For "how-to" cassettes, those who had never rented averaged 46 years old, and frequent renters averaged 44. The mean age for VCR owners who had never rented movies was 53 years. Frequent renters averaged 43 years old.

Perhaps the biggest surprise is that education is not related to the rental of science or "how-to" cassettes. This is a surprise because education is positively related to the viewing of educational and "how-to" television programs. (See Table 2) This suggests that individuals who watch educational and "how-to" television programs are different from individuals who watch "how-to" and educational/science programs on video cassette. What is not clear at this time is the difference in content between "how-to" and educational or science programs on cassettes and what is available on television. An analysis of these differences might help clarify why the audience for each appears to be different.

The picture which seems to emerge from this analysis shows that individuals with higher education appear to be finding the types of "how-to" and science programs they want on television. But, a different segment of the audience—not necessarily with higher education—is finding science and "how-to" video cassettes of greater interest.

Further analysis shows that this same pattern holds with other relationships. Consider the following findings (see Table 2):

- 1) Those who view TV science/educational programs also tend to view TV "how-to" programs.
- 2) Those who rent science/educational cassettes also tend to rent "how-to" cassettes.
- 3) There is little overlap between those who view TV science/educational programs and those who rent science/educational cassettes. While this relationship is significant, it is relatively weak.
- 4) There is little overlap between the audiences using TV "how-to" and VCR "how-to" cassettes.

**Table 2. Relationships between VCR use, television use and demographics.**

Pearson correlations	Education	Income	"How-to" TV	Science TV	"How-to" VCR
"How-to" TV	.1357*	.0698			
Science TV	.1822*	.0549	.3613		
"How-to" VCR	.0029	-.0557	.1259	.0500	
Science VCR	-.0842	-.1635	.0473	.2318*	.4837*

\*Correlations are significant at .0001 or less, others are not significant. Based on 634 VCR owners.

If the same individuals rent "how-to" cassettes, and also watch science video cassette recorders. An Educational Opportunity? Evidence in "how-to" TV programs, one might conclude that TV simply does not offer enough "how-to" program content for those individuals. However, because of the weak relationship between TV "how-to" and VCR "how-to," there appears to be a demand for content among a segment of VCR owners that is not being met by traditional TV/cable systems. The same basic argument holds for the different audiences using TV science/educational programs and VCR science/educational cassettes.

If these findings are true—in that there appears to be a potential gap 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?

Table 3 provides a partial answer to that question. The general conclusion from this table is that there is a positive relationship between renting video cassettes and interest in Extension topics. The more cassettes an individual rents, no matter what the content—movies, children's programs, science or "how-to"—the higher their interest in Extension program topics.

**Table 3. Interest in extension topics and rental of video cassettes**

Frequency of renting	Mean score of interest in Extension topics			
	Type of video rented			
	Movies	Children's Video	"How-to" Video	Science Video
Never rented	37.2	39.5	39.3	39.6
1 to 4 per year	38.2	40.5	42.5	41.5
Five or more per year	40.9	41.7	48.4	45.5
Significance*	.001	.0275	.000	.000

\*One-way analysis of variance test.

Higher scores indicate higher interest. Scores ranged from a low of 21 to a high of 62.

The maximum possible range was 21 to 63. Analysis based on 627 VCR owners.

This finding probably should not be surprising in that active and specialized media use generally have been found to be related to more active information seeking. Video cassette rental is, by its very nature, an "active" pursuit of content as opposed to the more passive television viewing of available programs. One might conclude from this finding that placing cassettes in locations where other video cassettes are rented might be a reasonable strategy for an organization trying to reach this audience.

The optimism of that these study findings may trigger must be tempered by limitations intrinsic to video cassettes. As mentioned in an earlier section, capital investment in the production and distribution of video cassettes may still be prohibitive given the potentially limited audience such educational cassettes are likely to have.

Most importantly, while the video cassette is retrievable (Levy, 1981), it is not easily indexed: A user cannot go to a video cassette and easily look up a particular section in the same manner one can with a book or newspaper. If you have ever tried to "cue" a cassette to the end of a previously recorded program at the same time a new program you want to record is starting, you understand the problem of indexing. The lack of indexing for video cassettes is, of course, a technological problem, but one that is unlikely to be solved in the immediate future. But even if this problem were solved today, the replacement of existing VCRs with more advanced models is unlikely to occur within the near future. It is this lack of indexing, perhaps more than any other feature of video, which controls the type of subject most appropriate for video treatment.

Even if we assume that there are certain types of educational content that can be put in video format that are not constrained by the lack of indexing, the question remains: Who are the likely users of this educational content? While it may be safe to say that there is an emerging audience for "how-to" and science video cassettes, one cannot be sure how to specifically pinpoint individuals belonging to this audience. What is clear, however, is that this potential audience is relatively small in numbers, and the total number of cassettes they are likely to use may be extremely limited. In addition, identifying the specific educational content this audience will use has not been clearly determined and it may be this area, more than any other, which may hold the key to the success of Extension video use.

## Conclusions

As new technologies, both radio and television stimulated considerable excitement among educators who saw them as opportunities to reach vast audiences with educational content. Browning (1985) notes, for example, that in 1931 the general view from Extension was that radio was an educational tool for Extension while the older technology (newspapers) was useful only for publicity. This view, of course, changed as radio, and more recently television, came to be viewed as primarily entertainment.

Perhaps the most encouraging finding in this study is that rental of video cassettes is positively related to interest in Extension topics. This finding provides some optimism that with



careful planning and selection. Extension can develop an effective means of delivering educational materials to selected segments of its audience.

But, if video is going to be different, if it is going to be a long-term educational tool for Extension, it must be evaluated with care. The right decisions now can help Extension reach potential new audiences—the wrong decisions can be costly failures.

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