

## Teaching by Television

Televised instruction can stimulate application  
of knowledge and changes in behavior

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*The effects of teaching by television have been explored in a number of studies dealing with a variety of subjects. Some of these studies in areas of home economics are cited to demonstrate advantages of the medium. Findings from the author's own study, concerned with teaching nutrition in 5 to 7 minute programs, are summarized to substantiate her contention that the potentialities are great and that home economists are "naturals" for utilizing such a medium. Evidence of the effectiveness of teaching was elicited by testing and interviewing a sample of homemaking-viewers.*

EFFECTIVE group instruction is a concern of home economists. Television's rapid development since 1948 has stimulated widespread interest in the use of this medium as a teaching tool. However, its potential for transmitting Extension Service information has not been fully realized by many Extension personnel.

Research findings indicate that important information can be communicated quickly and efficiently, using televised programs as short as 5 to 7 minutes. Furthermore, it appears that televised instruction can stimulate application of knowledge and changes in behavior. Many topics used in Extension teaching are suitable for television programs.<sup>1</sup> An expert in the field of instructional television has said that of all the academic fields home economics has one of the greatest potentials in television.<sup>2</sup>

Most home economists have mastered the skills and techniques needed for attracting and holding the attention of audiences. The

<sup>1</sup>See Barton L. Griffith, "Some Uses of Television by Home Economists," *Journal of Home Economics*, LVI (February, 1964), 97.

<sup>2</sup>*Ibid.*, p. 95.

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fact that these same skills and techniques can be readily adapted to the requirements of television should encourage Extension personnel to teach by television. This paper will (1) summarize some studies, designed to appraise the effectiveness of teaching by television, which have helped identify the bases for its potential usefulness; and (2) more specifically, summarize findings of a study which explored the use of television as a means for disseminating nutrition information.

#### BASES FOR USEFULNESS

In Extension teaching a great deal of emphasis is placed on making application of principles and techniques in solving problems. The "close-up-view" made possible by television should be advantageous in this respect. At the same time, television provides a means of influencing an audience hundreds of times as large as can be reached in person or through group meetings. An early study pointed out that television can "get to" a segment of the population that has been difficult to reach with the usual methods. (An outstanding characteristic of an audience studied was the proportionally high participation of young mothers.)<sup>3</sup>

#### *Close-Up View*

A home economist with extensive television experience says that:

The great advantage of television lessons in sewing is that each student or viewer of sewing is in the best possible position to see what is being done. In fact, while television sewing lessons are being made, the instructor tries to remember that the observer has a position looking over her left shoulder. Another benefit of this method of learning to sew is that the viewer sees the operations from the same direction that she will be doing it. . . . The camera has the ability to move in for an enlarged close-up of a technique so that each student of sewing may see just exactly what the instructor is talking about.<sup>4</sup>

College students at Pennsylvania State University who were taught clothing construction techniques during laboratory periods by means of television favored this method. They reported that they could follow the demonstration more easily and accurately and could see details better than when they were grouped around a live

<sup>3</sup>Meredith C. Wilson and Edward O. Moe, "Effectiveness of Television in Teaching Sewing Practices," USDA Extension Service Circular No. 466 (Washington, D.C., Federal Extension Service, June, 1951), 1.

<sup>4</sup>Gladys Chaptis, "Making a Television Series," *Journal of Home Economics*, LVI (February, 1964), 101.

demonstrator.<sup>5</sup> Actually, visuals not suited for distance viewing (as in an auditorium) can become "visual" on TV.<sup>6</sup>

### *Outreach*

On the basis of the number of sets owned, television provides a means of reaching and influencing audiences hundreds of times larger than personal contact or group meetings will permit.<sup>7</sup> It appears to be peculiarly adapted to reaching young homemakers and mothers of small children who cannot easily participate in group activities away from home. (This potential clientele has been a particular concern to Extension.)<sup>8</sup> An early study involving a televised sewing course found that more than half of the women viewers were under 35 years of age; seven in eight were less than 45 years old. Eight out of ten had children under 18 years of age at home.<sup>9</sup>

### *Topics for Television*

Television is suitable for teaching many of the topics used in Extension. This medium "has been used successfully in all areas of home economics, including child development and family life, food and nutrition, textiles and clothing, home management and family economics, and interior design. It would seem that home economics and television were made for each other."<sup>10</sup> A study by Thomas<sup>11</sup> provides ample evidence that a great deal of the content ordinarily included in home economics is appropriate for television programs.

### *Personnel Qualifications*

Orrell<sup>12</sup> states that home economists have some of the special qualifications for using television, and that they have mastered the skills and techniques needed in presenting ideas so as to attract and

<sup>5</sup> Griffith, *op. cit.*, p. 97.

<sup>6</sup> Cordell Hatch, "Extension Conference by Closed Circuit Television," *Extension Service Review*, XXXVI (September, 1965), 7.

<sup>7</sup> Layne Beaty, "Radio and Television," *Power to Produce: The United States Department of Agriculture Yearbook, 1960* (Washington, D.C.: Superintendent of Documents, 1960), pp. 89-95.

<sup>8</sup> Wilson and Moe, *op. cit.*, p. 1.

<sup>9</sup> For example, see Eva L. Goble, "Young Homemakers and Extension," *Journal of Cooperative Extension*, II (Fall, 1964), 135-42.

<sup>10</sup> Griffith, *op. cit.*, p. 95.

<sup>11</sup> Virginia F. Thomas, "An Opportunity for Home Economics Education through Television," *Journal of Home Economics*, LI (June, 1959), 422-23.

<sup>12</sup> Geraldine G. Orrell, "Television and Home Economics," *Extension Service Review*, XX (May, 1949), 77.

and audiences. The fact that home economists can readily adapt to requirements of television should encourage Extension personnel to promote teaching through television.

A study on uses of television by home economists found the most important source of talent for home economics programs to be the resident and research staffs of colleges and universities, as well as university Extension and county home economists.<sup>13</sup>

For the most effective television teaching, however, special training is advantageous. It was recommended, as the result of one study, that the "Extension Service should place greater emphasis on the importance of training in communication methods for present and prospective staff members." In-service training was suggested to include: (1) an annual workshop on a state university campus on an regional basis, using the best qualified instructors from all areas of the university and elsewhere; and (2) an annual or semi-annual workshop, in the studios of the stations concerned, for county agents and other staff members involved in regular programming on TV. It was also suggested that prospective Extension workers and present staff members enrolled in graduate work be encouraged to take courses in television writing, editing, production, presentation methods, and other techniques.<sup>14</sup>

#### NUTRITION VIA TELEVISION

People seem particularly resistant to changing their habits relating to nutrition. Research indicates a great need, even among educated people, for improved dietary habits and a better understanding of nutrition principles.<sup>15</sup> At the same time, there appears to be a natural interest in this topic. In a study by Ebling and others,<sup>16</sup> viewers indicated a first preference for nutrition as a telecourse topic.

The Iowa Extension Service used a series of 13 once-a-week telecasts to challenge overweight homemakers and husbands to lose unwanted poundage.<sup>17</sup> Enrollment in the series was handled by county home economists. Nine thousand persons requested literature that

<sup>13</sup> Griffith, *op. cit.*, p. 96.

<sup>14</sup> Frederick Irving Jones, "An Evaluation of Agricultural and Home Economics Programming on Television Stations Serving Ohio" (abstract of unpublished Master's thesis, Department of Journalism, Ohio State University, 1962), p. 8.

<sup>15</sup> Ercel Eppright, Abby Marlatt, and Mary Brown Patton, *Nutrition Status of 8-, 10-, and 11-year-old Public School Children in Iowa, Kansas, and Ohio*, Research Bulletin 794 (Columbus: Ohio State University Experiment Station, 1957).

<sup>16</sup> Sally K. Ebling, "Modern Home Management Home Economics Telecourse," *Journal of Home Economics*, LIV (February, 1962), 121.

<sup>17</sup> Leslie Smith, "TV Helped Us Lose Weight," *Extension Service Review*, XXVI (April, 1955), 72.

was offered. As a finale, a group of club women from Johnson County, Iowa, who had reached their desired weights were invited to appear on a television program.

A study designed to evaluate the success of a nutrition series conducted in central Ohio particularly emphasized the effectiveness of television as a teaching tool. The series, entitled "Food and Health," was developed by the Cooperative Extension Service and the Ohio State University School of Home Economics.<sup>18</sup> Basic nutrition information dealing with nutrients, menu planning, basic food groups, children's food habits, weight control, and food buying was arranged into 13 five-to-seven minute programs. Rather than presenting recipes or food preparation procedures, the programs emphasized the contributions of food to well-being. The prepared scripts included the latest available nutrition information, supplemented by specially prepared graphics. A home economist with television experience narrated the series. It was pre-recorded on video tape and film for use on commercial and educational stations.

Letters from local Extension agents invited all homemakers on their mailing lists to participate in the series' evaluation. Thirty-eight homemakers from three central Ohio counties were used as the experimental group in the evaluation.<sup>19</sup> The viewing audience in this study was composed of full-time homemakers ranging in age from 25 to "46 and over," with an average of 12.63 years of schooling. Their families included children from under one year to over 18 years and aged relatives.

Effectiveness was measured by the difference between pre- and post-test scores and by information obtained from interviews at the conclusion of the series. The tests were objective, based upon material presented in the televised programs, and included a total of 44 multiple-choice, true-false, and fill-in questions. Before the television series, the sample homemakers completed the objective test to measure their prior knowledge of nutrition. During the interview at the series' conclusion they again took the test as a basis for measuring gain in nutrition knowledge and increase in ability to plan meals. A specially developed interview form was used to obtain the viewers' reactions to the series and suggestions for future programs and to provide a basis for comparing responses on the objective test and interview forms.

<sup>18</sup> See Eva Medved, "The Development and Evaluation of a Televised Nutrition Series" (unpublished Ph.D. dissertation, School of Home Economics, Ohio State University, 1964).

<sup>19</sup> The sample was drawn at random from homemakers on the Extension Agents' mailing lists who indicated a desire to view the series and to participate in its evaluation.

### *Effectiveness of Televised Nutrition*

Data obtained indicated that television is a useful tool for disseminating nutrition information to homemakers. The objective test scores tended to increase directly with the increased number of programs viewed. A statistical analysis showed that the average pre-test score (mean of 35.58 points) was increased to 39.05 on the post-test. The difference between these mean scores was significant at the one per cent level,<sup>20</sup> indicating that the increase was due to factors other than pure chance, presumably televised instruction in this case. The standard deviation was decreased from 3.54 points on the pre-test to 2.30 points on the post-test, indicating less variation of the individual scores from the mean or average score.

This gain in score was reflected in improved meal-planning ability. A comparison of the meals planned before and after the televised series indicated improvement with respect to several nutrients that tend to drop below the recommended allowance in American diets. Vitamin A showed a 15 per cent improvement; vitamin C, 26 per cent; and calcium, 11 per cent. Improved over-all nutrient adequacy of menus planned was noted as follows: breakfast, 50 per cent improvement; luncheon, 27 per cent; and dinner, 31 per cent improvement. From these results, it is evident that televised presentations can increase knowledge and stimulate application of knowledge to achieve desired results. However, the study procedures did not seek objective evidence to determine whether participants actually prepared the improved meals they demonstrated they could plan.

### *Homemaker Reaction to Series*

Data obtained by the interview showed that the entire group of homemakers considered the series successful. Sixty per cent of the sample favored the five-to-seven minute program length. Time of day and season of the year appeared to be more important to the viewer than the number of programs in a series. Many indicated that the school months were better than summer for viewing televised homemaking programs. Suggested viewing hours were 10:00 A.M. to 12:00 noon and 2:00 to 3:00 in the afternoon.

During the interview, homemakers expressed a need for food and nutrition information. They wanted additional television programs concerning children's food and food habit development, weight

<sup>20</sup> A multiple regression was used to determine which variables were most significant (age, education, home economics training, Extension, 4-H Club, gain in score after TV series).

control, importance and sources of essential body nutrients, and special diets (e.g., for diabetes or for lowering blood cholesterol level). They also expressed a desire for programs which would probe more deeply into nutrition—beyond the basics. They wanted a more thorough understanding of nutrition.

Data cited indicate the potential effectiveness of televised instruction. It may be concluded that through the use of televised nutrition instruction it is possible for homemakers to improve their meal planning. Such programs may be useful in helping homemakers develop the ability to apply principles as well as acquire factual information.

#### CONCLUSION

Homemakers appear to be ready to accept nutrition information beyond the basic principles.<sup>21</sup> With the prospect that this inclination could also apply to other topics, efforts should be directed toward developing a regularly scheduled homemakers' program which would encourage the acquisition of a habitual daily viewing pattern. Regular programming will help attract larger audiences than sporadic programming. In the minds of homemakers, regular programs will help to redefine television as a means for providing homemaking information, in addition to its entertainment potential.

When compared to other media, television programming may appear expensive; but in terms of recorded performances which can be made available to an entire area or state and thus reach many viewers, such features cease to be expensive. The possibility of reusing video tape or film presentations—with success equal to that of a live presentation—lowers the cost per performance. This feature of pre-recorded televised programs also provides a savings of time and energy as compared with repeated face-to-face presentations. The nutrition series cited above was scheduled on 18 or 20 commercial television stations in Ohio, attracted an estimated audience of over 459,000 and has received attention outside the state.<sup>22</sup>

It appears that television can attract large viewing audiences, provide equal viewing (including close-ups) for all, attract both urban and rural viewers and both Extension members and non-members, and have special appeal to young homemakers. Therefore, Extension personnel may wisely be encouraged to extend their use of television for teaching.

<sup>21</sup> Medved, *op. cit.*

<sup>22</sup> Medved, *op. cit.*