How Clientele With Varying Education Levels View Extension Dissemination Methods

JULIUS O. OBAHAYUJIE, ED.D.[1] AND JOHN HILLISON, PH.D.[2]

Rural educators, especially Extension agents, must frequently ask themselves serious questions about the best instructional methods to use while disseminating information to their clientele. The generally informal atmosphere encountered by the Extension agent demands a close examination of which methods are most effective. Those who use ineffective methods of dissemination will typically not reach their clientele and may not be respected. Questions frequently raised by Extension agents are, "What is my clientele really like today?," "How is it changing?," "What are the best ways to get the message across? What different methods can I use most effectively with different groups of people?

REVIEW OF LITERATURE

In a classical study Wilson and Gallup [8] classified dissemination methods into three categories: individual-contact, group-contact, and mass-contact. Agents must choose from among these categories in order to select the most effective method for the clientele being served. For example, agents can use more individual-contact methods such as farm visits and office calls. These methods permit eye contact and more personal attention; however, they are more time consuming so fewer people can be reached at any one time. Agents can also use more group-contact methods such as tours and demonstration meetings that encourage group discussion. Such methods, however, are frequently fraught with scheduling problems. Agents can use mass-contact methods such as bulletins, radio spots, and exhibits that can reach a large number of people in a minimal amount of time. These methods may be effective in some circumstances, but they do not permit the personal touch of eye contact or a handshake. A further complicating factor for the agent is that the effectiveness of these methods varies with different types of clientele.

Earlier studies indicate mixed results on the effectiveness of dissemination methods. Burns [2] found that a slight majority (51%) of the Extension clientele preferred meetings. Awa and Crowder [1] reported that 60% of the Extension clientele preferred printed material. In an Oklahoma study, Cosner and Key [3] reported mass-contact dissemination methods as the most popular. They found that 54% of the clientele had read Extension news columns, while 51% had listened to radio or watched television programs presented by Extension personnel. Trent and Kinlaw [6] conducted a study with North Carolina residents in which they concluded that comic books could be used effectively in reaching Extension clientele including presenting the comic books via television. Harriman [4] in a study in Illinois examined a newsletter as a teaching tool in Extension and found that 78% of the clientele found it to be very useful.

In a 1981 Kentucky study conducted by Warner and Christenson [7] no significant differences among education level and likelihood of using the Extension service was found. They found that 15.3% of Extension users had 17 or more years of education while 10.6% of non-users had the same number of years of education. The other categories used by Warner and Christenson were 0–6 years of education, 7–12 years, and 13–16 years. None of the latter three categories had as much as a 4% difference between users and non-users. These studies seem to point up the differences in disseminating information and how the perceived effectiveness of that information varies according to (a) dissemination type and (b) characteristics, such as education level, of clientele being served.

STATEMENT OF THE PROBLEM

Because mixed results were obtained by earlier researchers on the effectiveness of different dissemination methods, the authors decided to conduct the present study. The two-fold purpose of this study was to examine a specific clientele served by the Extension Service and

[1]Graduate student, Agricultural Education, Virginia Tech, Blacksburg, VA 24061, U.S.A.

[2]Associate Professor, Agricultural Education, Virginia Tech, Blacksburg, VA 24061, U.S.A.

TABLE 1

Demographic Description of Sample ($N=201$)

Characteristic	*n*	Percent
Sex		
Male	189	94.0
Female	12	6.0
Age		
Less than 36	15	7.5
36-55	85	42.3
Greater than 55	101	50.2
Years of Farming		
1-20	59	29.4
21-40	86	42.8
41-60	50	24.9
More than 60	6	3.0
Head of Cattle		
1-100	146	72.6
101-500	49	24.4
More than 500	6	3.0
Gross Income from Farming		
Less than 50%	146	72.6
More than 50%	55	27.4
Educational Level		
Less than high school	35	17.4
Graduated high school	66	32.8
Some college	47	23.4
Graduated college	34	16.9
Graduate school	19	9.5

to examine, in-depth, the assessment of Extension dissemination methods by clientele of varying educational levels.

Lyons [5] studied the attitudes of Virginia tobacco farmers in 1982. He selected those farmers because tobacco represented the most economically important crop in the Commonwealth. The current study selected beef farmers because they produce the most economically important livestock in the Commonwealth.

In order for Extension personnel to better understand their clientele and to decide which dissemination methods to use in what setting, it is important to know characteristics of that clientele. Such attributes as gender, age, years of farming experience, size of operation, and gross income help Extension personnel decide the best way to reach their clientele. This study placed greatest emphasis on the educational level of clientele.

The variable of education level was examined because of a generally increasing education level on the part of farmers. As farmers become more highly educated and, consequently, more sophisticated, Extension personnel should examine the sophistication and acceptance of dissemination methods used.

For purposes of this study education level was designated as the highest level completed, i.e., less than high school, high school, less than four years of college, four years of college, or graduate school.

The specific objectives of the study were as follows: (1) To describe the demographic characteristics of Virginia beef farmers as Extension clientele on the attributes of gender, age, years farming experience, number of head of cattle, gross income and education level; (2) To determine the assessment of Extension clientele dissemination methods based upon education level.

METHODS

The study utilized a research design known as the descriptive survey with a modification of a Likert-type instrument developed by Lyons [5] designed to survey tobacco farmers.

The population for the study consisted of 1,202 beef farmers in a seven-county area of southwest Virginia, where beef is the dominant livestock. In order to identify the population of beef farmers for this study, each farmer who was on the county mailing list as having had at least one contact with the local Extension office was identified. From this population, a simple random sample of 300 farmers was selected for surveying.

The instrument was mailed to this sample of beef producers in the fall of 1985. Two weeks after a second mailing to non-respondents, a total of 201 (67%) usable instruments had been completed and returned. A 16% sample of non-respondents was telephoned to determine if differences existed in selected variables between respondents and non-respondents. Independent *t*-tests conducted on six randomly chosen variables showed no significant differences. There is then no evidence to suggest non-response bias to the survey.

RESULTS

Demographic Characteristics of Sample

The farmers responding were most often male (94%). The modal age category was 56 and older. Eighty-six percent of the respondents had farmed between 21 and 40 years; another 24.9% had farmed 41-60 years. The majority (72.6%) had herd sizes of 1 to 100 head, and only a few (3.0%) reported having more than 500 head of cattle. The majority (72.6%) received less than 50% of their gross income from beef sales, indicating that they were part-time farmers. The sample was relatively well educated; 66 (32.8%) had graduated from high school, 47 (23.4%) had had some college, 34 (16.9%) had graduated from college, and 19 (9.5%) had attended graduate school.

Education Level and Dissemination

Information in Table 2 indicates how Extension clientele evaluated the different dissemination methods used. Analysis of variance with an alpha of .01 was used to determine points of significant difference. No statistically significant differences were found among the variables,

TABLE 2

Respondents Mean Evaluation of Extension Dissemination Methods by Education Level

Method	Less Than High School ($n=35$)	High School ($n=66$)	LessThan College ($n=47$)	4-Year College ($n=34$)	Graduate School ($n=19$)	Total
Farm and home visits	2.89	3.06	3.21	3.17	3.26	3.10
Office calls	3.11	3.15	3.30	3.21	2.95	3.17
Telephone calls	3.03	3.17	3.04	3.41	2.74	3.11
Personal letters	3.23	3.21	3.11	3.12	2.95	3.15
On-farm demonstrations	3.23	3.32	3.13	3.12	2.95	3.15
Presentation at meetings	2.97	3.14	3.09	3.12	2.84	3.06
Workshops	3.09	3.06	3.19	3.32	3.11	3.14
Tours/field trips	3.26	3.21	3.06	3.09	3.05	3.15
Lectures at meetings	2.97	2.95	3.11	2.97	2.79	2.98
Conferences	2.97	2.93	3.06	2.97	2.89	2.98
Clinics	2.80	2.73	2.68	2.53	2.58	2.68
Leaflets/pamphlets	3.20	3.02	3.13	3.03	3.11	3.08
Newsletters/publications	3.23	3.17	3.38	3.21	3.11	3.23
Cartoons	2.11	2.27	2.26	2.12	1.95	2.18
Bulletins	2.91	3.05	3.26	2.97	2.89	3.04
Posters	2.63	2.85	2.79	2.59	2.47	2.72
News stories	2.63	2.89	2.72	2.68	2.42	2.73
Visits to experiment stations	3.34	3.23	3.06	3.24	3.00	3.19
Exhibits	2.91	3.03	2.98	2.79	2.74	2.93
Radio programs	3.00	3.11	3.19	2.76	2.53	2.99
Television programs	2.94	3.09	3.06	2.97	2.58	2.99
Computer messages	2.03	2.42	2.53	2.50	2.11	2.36
Visits by specialists	2.69	3.06	3.00	3.18	3.05	3.00
Visits by universities	2.74	2.94	2.83	2.91	2.74	2.86
Overall Mean	2.91	3.00	3.01	2.96	2.79	2.96

Note: Possible range of 1 to 4, with 4 being the most effective.

in part because the sample was divided into five categories, resulting in relatively low n sizes. In general, the groups at educational extremes gave the lowest overall evaluations to the dissemination methods. The overall rating by respondents with less than a high school education had a mean = 2.91, while those who completed graduate school had a mean rating = 2.79. The highest overall rating was given by those who had completed high school, but had not completed college with a mean = 3.01.

When mean rankings by category for each dissemination method were analyzed it was found that respondents with less than a high school education and those with graduate degrees ranked a total of 20 dissemination methods the lowest. Less than high school completed respondents ranked 3 methods the lowest, i.e., farm and home visits, computer messages, and visits by specialists (all individual dissemination methods). The graduate school completed respondents ranked 17 dissemination methods lowest (3 individual, 5 group, and 9 mass media). For the middle groups of high school, less than college, and 4-year college completed respondents, generally the opposite was true. As a group they rated 18 dissemination methods the highest and only 4 the lowest. Of the 18 highest rated, 5 were individual, 5 were group, and 8 were mass media.

In summary, though the numbers of farmers in each educational level vary, trends are evident. Those with high school educations or less than college reported these methods to be generally more effective overall than did their more or less educated counterparts. Rankings given to particular methods vary accordingly.

CONCLUSIONS AND DISCUSSION

The typical southwest Virginia beef farmer in this sample was a male, 56 years old or older, had farmed for more than 20 years, had a herd of 100 or less cattle, with less than 50% of gross income coming from beef production, and had a high school education. Extension personnel need to be aware of this typical client. Such personnel need to avoid the temptation of working only with the atypical farmer with a large operation. They also need to emphasize program themes that have such topics as herd expansion and not just herd establishment problems. The reading level of printed matter, considering the varying educational levels, needs to be given consideration.

Beef production clientele are quite pleased with the

standard farm and home visit as a dissemination method. They are displeased with the dissemination methods of cartoons and computer messages. The latter may become more favorably rated as computers become more popular. Extension personnel are successfully targeting dissemination methods to the middle of the education level of beef production clientele (high school graduates to four years college graduates). They are perceived to be less successful in reaching the extreme educational groups of less than high school graduates and those with some graduate school. As the general education level of clientele increases, extension personnel need to de-emphasize those methods rated unfavorably by college graduates such as cartoons and emphasize the more favorably rated methods such as visits by specialists and farm and home visits.

REFERENCES

1. Awa, N.E., & Crowder, L.V. How extension stacks up. *Journal of Extension,* 1978, *16* (March/April), 19–25.

2. Burns, D.C. *Exploring the clientele attitudes toward agricultural extension programming.* Columbia: University of Missouri. (ERIC Document Reproduction Service No. ED 032 464), 1969.

3. Cosner, B.L., & Key, J.P. Does the public know? *Journal of Extension,* 1981, *19* (November/December), 19–23.

4. Harriman, L.C. A newsletter for new parents. *Journal of Extension,* 1980, *18* (January/February), 19–22.

5. Lyons, L.W. *A study of attitudes, participation, and knowledge of flue-cured tobacco producers concerning the Virginia Cooperative Extension Service.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

6. Trent, C., & Kinlaw, R. Comic books: An effective teaching tool. *Journal of Extension,* 1979, *17* (January/February), 18–23.

7. Warner, P.D., & Christenson, J.A. Who is extension serving? *Journal of Extension,* March/April 1981, pp. 22–28.

8. Wilson, M.C., & Gallup, G. *Extension teaching methods.* U.S.D.A. Extension Service Circular No. 495. Washington, DC, 1955.