

Staff Training Needs For Dealing with Developing Communication Technologies

by Ned Browning
and Lenda Jo Anderson

Communication specialists within the USDA/land-grant educational system must be more than media producers. They must be educators, not necessarily of the general public, but of the personnel of the system for which they work.

To be successful educators, they must know their subject, how to teach it, and what their students need to learn. For the communication specialist, a major challenge is to understand and train clients (subject matter specialists, field agents and administrators) for the Information Age.

The study reported here suggests one way to gauge and evaluate needs for training in developing communication technologies by scrutinizing one client group. All of the nation's Extension clothing specialists were asked how they were using traditional and innovative media in their educational programs (Anderson & Browning, 1986). In the process, they prioritized their information technology training needs.

USDA/Land Grant in the Information Age

Today's USDA/land grant system employees function in a rapidly changing and most confusing era. Computers, video technology, and satellites are assuming an important role in organizations such as Cooperative Extension.

Rural sociologist Donald Dillman (1986) says American society has undergone three different stages, or eras, of development since the Smith-Lever Act established the Cooperative Extension Service in 1914. The eras are community control, mass society, and the information age. It should be noted that these eras are not clearly demarcated: vestiges of earlier ones remain in the latter.

During the community control era, human communities were defined by geographic boundaries. Most people lived their lives within small villages and towns. Most of their knowledge of life was confined to immediate, small personal areas.

As the century progressed, radio and television permitted more communication among different sections of the country. This, in turn, led to a less diverse society. People in different parts of the country began to adopt similar lifestyles. The changes resulted in what Dillman calls the mass society era.

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By the mid 1960s the mass society era began to give way to a new stage of development. Computers and other information technologies began to take on a major social role.

The shift toward an information society is reflected in today's workforce. Fewer and fewer people are employed in manufacturing and farming. But the number of persons working in information-related fields is rising sharply. With this Information Age have come dramatic changes in our society. The needs of Extension clientele have become even more complicated than in the mass society era.

Information Brokers

In this new age, Extension agents/specialists will become information consultants or brokers. They will help clientele overcome information overload by helping them sort through the mass of information to find what is most useful. By expanding the role of the agent and specialist, the Information Age, inevitably, will redefine it.

It is within this redefined and expanded role that the communication specialist must meet the challenge of retooling personnel. The call is for an understanding of how to use available media. That understanding can't be limited to button-pushing knowledge. Not only must we master technicalities, we must pay attention to the ways by which people process information and learn, and their motivations for seeking knowledge.

Communication Systems

In 1985, the Extension Committee on Organization and Policy (ECOP) reported a study of the impact of electronic technology on extension delivery systems. A variety of media, now available or on the horizon, were analyzed in light of Extension's role in our society. The report views information technology in three dimensions: the functions of extension; the size of extension audiences; and the ways by which those audiences respond in information-seeking.

Basic functions. Communication processes within the Cooperative Extension System fill three, often overlapping, functions. Information delivery is the system's basic provision of the "stuff" on which the public makes decisions about, and learns to take advantage of, the various areas of our mandate.

Educational delivery is the preparation and presentation of a specific educational curriculum. Agents and specialists work to upgrade the knowledge, skills and capabilities of clientele. This is where the organization needs to be most sensitive to learning modes, as well as the channels through which people get information.

In problem-solving, clients turn to Extension for expertise, knowledge, and skills needed to solve individual and group problems. Increasingly, this area of information manipulations is requiring significant international linkages.

Audience selectivity. There is a dimension of communication that depends on the receptivity or interest of a given audience. When deciding which media are appropriate to transmit a given message, the audience's willingness to attend to the medium must be recognized. The more "user-friendly" and accessible, the more likely the audience is to seek information via a particular medium. The communication specialist must be prepared to guide the interested subject matter specialists to the right tools.

Audience size. Just as the media spectrum has an audience attention dimension, it, also, has a size dimension. Naturally, an organization, such as Extension, relates to audiences of many sizes—from the personal to the national. The larger the audience, the greater the need to contact more persons simultaneously.

A variety of audience sizes calls for a variety of communication media. The effect of many developing media is audience de-massification, in which messages can be tailored to specialized interest groups. Although these media are wide-ranging, they have effects more akin to interpersonal than mass communication.

Communication specialists must take care not to get trapped into a mass media mindset and job definition. They must recognize the characteristics of new media in order to help organizational clients effectively reach audiences in ways beyond traditional media.

The Communication Specialist As Trainer

Those who provide a service to others will be more successful in the job if they know what the client needs. For USDA/land grant communication specialists, the primary client for communication education is the staff member of their organization. As with any programmatic aspect of the organization, the best way to find what the client needs/wants is to ask.

Case study

In the fall of 1985, all U.S. Extension clothing specialists were asked to respond to a mail questionnaire about their use of contemporary information technology. The survey structure was based on the media analyzed in the ECOP report.

Fifty-four of 93 specialists, representing 40 states, responded. Some of the 93 positions became vacant during the time of the study. Some states do not have clothing specialists. Length of service, age and location did not significantly affect responses (Chi-square, $p < .01$).

Respondents were asked to report what media they currently were using or preparing to use. Then they were asked to express their feelings about the usefulness of those media in their educational programs. To gauge how they felt their practices fit into the organization's media emphases, they, also, were asked to report their perceptions of their administrators' priorities. Finally, respondents were asked to rate, on a seven-point scale, how comfortable and skilled they felt in using the various media.

Results

As could be expected, the more traditional media, with the exception of video cassettes and magazines, ranked highest in use (Table 1).

Newspaper. On average, respondents ranked newspaper as the top medium for their educational programs. They felt most comfortable and skilled using it and felt their administrators' held the same priority. Ninety-eight percent provide material for newspaper articles. This finding reflects the highly traditional aspect of Extension work.

Radio. The second most-used medium was viewed as easy-to-use and endorsed by the organization. Eighty-four percent took part in radio broadcasts.

However, the respondents expressed reservation about the usefulness of the medium by ranking it, relatively, lower than its actual use. A possible problem lies in the difficulty, if not inability, to evaluate effectiveness of the time expended in radio production.

Table 1. Clothing Specialists' Use and Perceptions of Media

Medium	Actual use*	Perceived			
		Useful**	Organization priority**	Comfort using***	Skill***
Newspaper	1	1	1	1	1
Radio	2	4	2	2	2
Video cassette	3	2	4	3	4
Television	4.5	3	3	5	3
Teleconference	4.5	6	5	7	7
Cable TV	6	5	6	8	6
Dial access	7	7	9	6	8
Magazines	8	8	8	4	5
Electronic publishing	9	9	7	9	9

*Rank is based on average reported use.

**Rank is based on respondents' average rankings.

***Rank is based on averages of respondents' ratings for each medium.

Videotape. Reflecting the rapid growth in home video systems, 74% of the respondents reported that they contributed to or produced their own educational videotapes. They saw even greater use for them, yet perceived lower administrative support. Their assessment of their skills and comfort using the medium matched their usefulness ratings, thus reflecting a growing familiarity with the medium. This is an area where subject matter specialists need further training.

Television. Tied to the home video phenomenon is the decline in standard broadcast ratings. This situation is reflected in respondents' ratings as they ranked television lower than videocassettes in use and usefulness. However, they felt their organization places a greater emphasis on the use of the medium than do they. Although they felt sufficiently skilled in the medium, they seemed more uncomfortable with it. Assuming that an Extension specialist is skilled in public presentation, this finding indicates a need for training/practice that eases discomfort with this medium.

Teleconferencing. A hybrid medium, teleconferencing brings together the delivery tools of the meeting, the telephone, and, sometimes, the airwaves. Respondents reported that they used teleconferencing as often as they used television. They saw their use in line with organizational priorities. However, they saw it as less useful than the more traditional audio-visual media and felt less skilled and comfortable with it. Teleconference users need training in ways to humanize/personalize the medium, in the medium's differing demands on participation and message styles, and in ways to provide effective feedback between participants (Monson, 1978).

Cable TV. Reflecting what seems to be unsure access to the medium, only 36% of the respondents reported delivering educational information and programs via cable access channels, although they saw it as potentially more useful. Their personal skill ratings agreed with their use ratings; however,

they expressed a high level of discomfort with the medium. This indicates a need for "performance" training.

Telephone Dial Access. Low use (32%) and low usefulness ratings indicate respondents' relative disinterest in the use of the telephone to distribute recorded educational material. A perception of even lower administration priority indicates an organizational-wide lack of emphasis. If Extension is to make widespread use of this medium, administrators must place greater priority on it and be prepared to train staff in its use.

Magazines. One of the two oldest of the mass media, the magazine ranks consistently low in use, usefulness, and organizational priority. Yet, the medium is seen as one with which respondents have relatively good skill and comfort in using. These findings reflect the high level of inaccessibility of magazines for disseminating Extension educational information.

Electronic publishing. The most exotic and least widespread of the new media reviewed by ECOP—electronic publishing—received the lowest ratings. Several respondents (19%) reported formative, but not active, stages of use. However, respondents perceived a higher administrative priority for videotext-type systems. For the communication trainer, this finding, and developments in the field of computer networks and electronic text, is an early warning to develop style and use procedures (*The Quill*, 1983.)

Implications for Communication Trainers

Respondents' rankings of the nine media in the five categories of the study can be compared via rank order correlation. Such a comparison can guide communication trainers to areas that need attention in their clients' approaches to contemporary media (Table 2).

Table 2. Actual Use and Perceptions of Media

Comparison	Correlation*	p<.01
Use & organizational priority	.81	s
Use & usefulness	.76	s
Comfort using & skill using	.72	s
Usefulness & skill using	.67	ns
Use & skill using	.64	ns
Usefulness & organizational priority	.61	ns
Use & comfort using	.59	ns
Usefulness & comfort using	.50	ns

*Kendall's tau rank order correlation.

The expected reaction. The findings indicate that the nation's clothing specialists use the media that they perceive are important to their organizations. To a lesser, yet significant, degree they also use the media that they regard as most useful. And, given human nature, they are most comfortable using media in which they felt skilled.

Organizational priority. The clothing specialists revealed that they do not agree with what they understand to be organizational priorities for media. A nonsignificant correlation between usefulness rankings and perceived organizational priorities indicates a feeling that specialists and administrators do not agree. The communication specialist can step into this breach and orient both staff and administration to the realities of current media.

Skills and Comfort. Respondents expressed a distinct discrepancy between media use and abilities. They see their skills as being, somewhat, displaced from the media that are most useful. For instance, they rank their skills and comfort in using magazines much higher than they rank their actual use. On the other hand, teleconferencing gets a relative high personal and organizational use priority, but a low comfort and skills rating.

The communication trainer should take note of such trends and seek ways to ease the users' minds about the various media. This requires programs in acquainting users with the media, basic production demands and techniques, and ways the media contact audiences. In particular, the developing media need attention.

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