

**Communication Training Needs of Agricultural and Extension
Education Graduates: A Survey of Association of
Agricultural and Extension Education Members**

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The National Research Council's 1988 report, Understanding Agriculture: New Directions for Education, defines "agriculture" as broader in scope than just vocational and production agriculture. By implication, the scope of agricultural education encompasses more than vocational education (McCormick, 1989). Barrick (1989) further supported this new concept of agricultural education when he described the discipline as "multifaceted" (p. 27). Agricultural education now covers extension education, agriculture teacher education, international education, human resource development, and agricultural communication. The concept of agricultural education is expanding and the Journal of Agricultural Education is adjusting to meet the increasing needs of the profession. Formerly called the Journal of the American Association of Teacher Educators in Agriculture (AATEA), it has undergone a name change. The articles it publishes are increasingly diverse. For example, there are more extension education and international education articles. It is this diversification, both of the journal and the profession, that makes it necessary to discuss an increasing need of agricultural education graduates--communication training.

Agricultural educators must examine the appropriateness of their curriculum both in terms of the diversity of the students trained and the changing educational needs of society. Miller (1991) questioned whether agricultural education departments are meeting the needs of international students. Miller's concern was expanded by Swanson (1991), who stated that the "first and most important imperative for the future of agricultural education is to focus on people . . . Elevating human possibilities among rural people is the most important goal which agricultural education can pursue" (p. 7). The move by technical science departments to establish their own educational programs, such as environmental education and health education, suggests that education departments do not recognize their role in training educators for these technical areas.

The views stated by the authors cited above, and by many others like them, suggests that there is upheaval in the field of agricultural education. It is against this background that this author urges agricultural educators to consider another dimension of the field--communication. If people are the focus of agricultural education (formal and nonformal), shouldn't change agents be experts in communication? If their task as communicators is not to be based on trial and error, shouldn't these agents be well-versed in communication theories, concepts, technologies, and techniques? If they should, is communication training featured prominently in the curricula of agricultural education departments? If communication training is not presently required, shouldn't it be, given the bulk of agricultural education graduates both in the United States and abroad go into extension work and other human relations areas? (Hoffman, 1992; Wardlow, 1989). This paper examines the need for communication training as a necessary precondition for agricultural development. It argues that a number of problems facing Extension systems in many

countries can be traced to a lack of communication training for extension agents, and urges agricultural education departments to include communication training in their extension education curricula.

This paper argues that the problems of Extension, which include (1) helping a privileged minority instead of the needy majority (Warner & Christenson, 1984; McDowell, 1991); (2) adopting a piece-meal approach to development instead of seeing development as a holistic process (Boyle, 1989; Soobitsky, 1971); (3) failing to expand Extension's disciplinary base in the wake of changing needs and situations (Hayward, 1991); and (4) preferring expensive and tantalizing communication gadgetry over less expensive and more effective educational methods (Miller, 1989), can be traced to limited knowledge of the field of communication. The paper is based on an extensive review of the literature and a survey of members of the Association of International Agricultural and Extension Education.

Literature Review

There is a growing concern that, although communication is an integral part of extension work, many agents and administrators receive very little training in this area. As far back as 1959, McCormick (see Soobitsky, 1971) ranked nine areas of competency training needs for Ohio Extension agents:

- Program planning and development
- Human development
- Effective thinking
- Technical Knowledge
- Communication
- Research and evaluation
- The educational process
- Extension organization and administration and
- Understanding social systems.

McCormick's study has been replicated in thirteen states in the last twenty years and communication has ranked consistently among the top four competency training needs (see Soobitsky, 1971). More recent studies, including Gonzalez (1982), and Kouzekanani (1983) have stressed the need for communication training for agricultural education graduates.

The communication skills for which Extension agents expressed a need, according to the studies cited, relate to the "craft" of communication--how to use radio, newsletters, visual aids, and how to speak in public. These agents may not be aware that their greater needs relates to the "art" and "science" of communication. Severin and Tankard (1992) explained:

Mass communication is part skill [craft], part art, and part science. It is a skill in the sense that it involves certain fundamental learnable techniques such as focusing television camera, operating a tape recorder and taking notes during an interview. It is an art in the sense that it involves creative

challenges such as writing a script for a television documentary, developing a pleasing and eye-catching layout for a magazine advertisement, and coming up with a catchy, hard-hitting lead for a news story. It is a science in the sense that certain verifiable principles involved in making communication work can be used to achieve specific goals more effectively. (p.3)

Communication as a science teaches how to assess the needs of client groups, how to plan, design, prepare and disseminate communication messages, and how to evaluate the impact of the communication effort (Brody, 1991). In The Process of Communication, Berlo (1960) described certain factors that the communicator must consider if he or she is to be effective: communication skills or idiomatic expression, cultural understanding knowledge of subject matter, and social status.

In extension work, communication is the key that opens the door for change. However, the science of communication is the aspect studied least by extension agents. Soobitsky (1971) found that Ohio Extension agents not only recognized the importance of communication, they also complained of the weakness of the curriculum that should provide it. Niels Roling (1972), a noted Extension researcher, stated that the basic problem of Extension agents the world over is that they are engaged in "faulty communication, not only to ultimate target groups, but even more so, to lower government officials" (Roling, 1972, p.5). Nearly twenty years later, Roling and Engel (1991, p. 75) still contended that, while extension agents may be trained in agricultural sciences such as agronomy and animal science, they lacked training in the "systematic use of communication to help farmers solve their problems." Harley and Hayman (1992, p. 28) observed the same problem with Australian Extension agents: "Most extension staff in Australia, while well-versed in their subject matter, often lack expertise in how best to transfer the information." They warned that we must view information transfer as communication and prepare extension agents in this area if extension performance is to improve.

Communication training for extension workers in Africa, Latin America and Asia has been noted by Brazilian scholar, Paulo Freire (1987). Freire argues that, in the sense that extension agents simply extend research information, extension education is not liberating: "liberation implies the problematization of their (the clientele) situation in its concrete objective reality so that being critically aware of it, they can also act critically on it" (Freire, 1987, p. 97). Freire sees extension agents basically as agronomists trying to do professional communication work:

This, then, is the real work of the agronomists in their role as educators. Agronomists are specialists who work with others on the situation influencing them. However, from a truly humanistic point of view, it is not for them to extend, entrust, or dictate their technical capacities, nor is it for them to persuade by using peasants as "blank pages" for their propaganda. In their role as educators, they must refuse to "domesticate" people. Their task is communication, not extension. (emphasis in original text, p. 97).

Freire and others (Boyle, 1989) believe Extension agents must build extension programs based on the needs, problems and concerns of the people most in need, namely, low income families and part-time farmers (Boyle, 1989). Instead, Extension traditionally transfers research findings to farmers in a "top-down" fashion without examining whether their communication efforts are making favorable impact on the beneficiaries.

Everett M. Rogers (1983), a prominent diffusion of innovations scholar, said Extension communication is not a two-way process because agents do not fully understand the people they serve especially minority groups:

Change agents are often professionals with university degrees in technical fields. This professional training, and the social status that goes with it, usually means change agents are heterophilous from their typical clients, thus posing problems for effective communication about the innovations they are promoting. (Rogers, 1983, p. 29)

Purpose and Objectives

The primary purpose of this study was to determine the communication training needs of Extension agents. Do Extension professionals see the importance of communication in their work? Do they feel there is adequate communication training built into the Extension curriculum at the university level? If not, would they like to receive training in this area? If yes, on what topics? The specific objectives of the study were two-fold:

To assess Extension professionals' need for communication skills in their work.

To describe the personal characteristics of Extension agents as represented by AIAEE members.

Procedure

This study was developed as descriptive survey research. The target population consisted of members of the Association of International Agricultural and Extension Education (AIAEE), a professional organization of extension and education professionals and graduate students.

The 1991 AIAEE directory revealed that there were 123 registered members. A sample of 97 respondents was obtained using a computer-generated list of random numbers. Sixty-four (66%) respondents contributed the data presented in this study.

Data were collected using a questionnaire designed by the researcher. Likert scaling was used to assess respondents' levels of agreement on the list of items dealing with communication training needs. Respondents rated their levels of agreement using the following scale: 1=very strongly disagree, 2=strongly disagree, 3=disagree, 4=agree, 5=strongly agree, and 6=very strongly agree.

To establish the content validity of the instrument, a panel of faculty and graduate students at The Ohio State University who have professional experience in Extension reviewed the instrument. Comments from the panel were reviewed and revisions in the instrument were made. Eight Extension education doctoral students and faculty then completed the instrument to detect problems related to wording, clarity, and format.

Respondents were mailed a copy of the cover letter, the research instrument, and a stamped, self-addressed envelope. Individuals not responding were sent a follow-up letter providing 64 valid responses (66%).

Because not all respondents returned the instrument, the author employed procedures recommended by Miller and Smith (1983) to handle problems associated with nonresponse error. AIAEE members who responded to the first mailing (45) were compared with those responding to the second mailing (19). Comparing early and late respondents revealed no significant differences between respondents' mean scores on the items of the instrument. This procedure assumed that late respondents were similar to nonrespondents and hence, eliminated nonresponse bias.

Findings

Demographic Characteristics

As shown in Table 1, 53 (83%) of the 64 respondents were male and 10 (16%) female, with one item missing. It was revealed that 55 (85.9%) of the respondents were 30-59 years of age. Of the 64 respondents, 58 (90.6%) had a Master's degree or higher. The respondents were very diverse in terms of their knowledge of the field. Tenure-track faculty members formed 28.1 percent, nontenured track was 14.1 percent, graduate research associates 12.5 percent, other graduate students, 20.3 percent. The remaining portion was comprised of professional staff and others. Of the 64 respondents, 39 (61%) were U.S. citizens and 24 (36%) were non-U.S. citizens (one item missing).

Importance of Communication in Extension Work

The Extension educators, professionals and graduate students were asked to indicate their level of agreement to 11 items relating to communication and extension. The mean scores of agreement on the 11 items are presented in Table 2. As shown in the table, a mean score of 4.0 or higher indicated that respondents had agreement on the items. A high level of agreement (>4.5) can be observed on many items. In general, the findings indicated an extremely high rate of agreement.

Discussion

The survey of AIAEE members clearly shows that Extension agents and Extension educators recognize the importance of communication training not only for themselves but for all professionals--vocational teachers, nurses, doctors, and social workers, etc. whose primary goal is to accomplish voluntary change of clientele behavior. A weakness of the study could be that it focused on respondents who already place a high premium on communication. However, this presumed weakness is also the strength of the study. Because Extension agents need communication training to be effective, it is surprising that this type of training is not readily available.

Education for the 21st century must be holistic; that is, it must focus on societal issues, not solely on the classroom. Education, formal and informal, is the primary means by which people are informed about issues that affect them. Norbert Wiener (1948) coined the word "cybernetics," which he defined as the science of communication and control.

Wiener noted that communication is the grease that makes the development wheel turn. It is the glue that ties social organizations together. An understanding of cybernetics and systems theory is important to assist agricultural educators see the broad

nature of their function. The AIAEE member study found that, although respondents agreed that systems theory was applicable to their work, they lacked familiarity with it. Agricultural education means providing education in its many forms; that is, education for a wide variety of audiences, not simply vocational agriculture. Communication training is one way to meet the information and communication needs of agricultural education and extension audiences, especially if it is designed to include an understanding of systems theory.

Table 1. Demographic Characteristics of Respondents

Characteristic	N	%
Gender		
Male	53	83.0
Female	10	16.0
Missing	1	1.0
Total	64	100.0
Age Distribution		
20 to 29	4	6.3
30 to 39	25	39.1
40 to 49	16	25.0
50 to 59	14	21.9
60 and Over	4	6.2
Missing	1	1.5
Total	64	100.0
Education		
High School	1	1.5
Bachelor's Degree	3	4.7
Master's Degree	24	37.6
Ed. D. Degree	7	11.1
Ph.D. Degree	27	42.1
Other	1	1.5
Missing	1	1.5
Total	64	100.0
Type of Appointment Held		
Faculty, Tenure Track	18	28.1
Faculty, Nontenure Track	9	14.1
Professional Staff	4	6.3
Graduate Teaching/Research Associate	8	12.5
Graduate Student	13	20.3
Other	10	15.7
Missing	2	3.0
Total	64	100.0
Country of Respondents		
U.S.	39	61.0
Non-U.S.	24	37.0
Missing	1	2.0
Total	64	100.0

Table 2. Communication Training Needs of Extension Professionals

Item	Level of Agreement		
	N	Mean	SD
Communication is important in Extension	63	5.7	.50
One needs communication training to be an effective Extension agent	64	4.4	.81
There is adequate communication training built into Extension curriculum at my university	58	3.1	1.27
Relevant communication courses should be made available to Extension students who want to be employed as agents	62	5.0	.99
Extension agents receive more training in their specialized areas than they do in communication	62	4.9	.85
Extension agents need training on how to implement participatory programs	64	5.1	.74
The professionalism of Extension needs improvement	60	4.8	.88
In general, the Extension agent obeys the one who pays his or her salary	61	4.4	1.02
The Extension Service prefers agents skilled in technical agricultural areas to those skilled in the social sciences	61	4.4	1.02
The structure of many universities does not encourage interdisciplinary Extension teaching and research.	60	4.7	.91
I need training in understanding the complex nature of the development/social change process and the role of communication in it	59	4.4	1.23

Recommendations and Conclusions

Communication training, to use the words of Lee Thayer (1972), is absolutely essential for extension agents. Agricultural education departments are expanding to include agricultural communication programs to prepare students in this area. The following recommendations are presented.

Further research is needed to establish appropriate communication courses for Extension students, especially those from developing countries.

In land-grant universities, where communication courses are offered through the agricultural communication program, Extension students should be encouraged to take advantage of the opportunities presented by these courses.

It appears that the extension agent of the future will be one whose expertise cuts across many disciplines. Extension administrators need to rethink the qualifications needed for extension work. Communication training could very well be a major requirement.

Agricultural education departments seeking to expand their programs should consider agricultural communication and international development, given the increasing demand in these areas.

Agricultural educators need to expose themselves to other disciplines. This might be accomplished through participation in professional meetings or by inviting notable speakers from other disciplines to agricultural education professional meetings.

Another effective way to promote communication education in agricultural education programs is to employ communication graduates in the agricultural faculty.

Research on communication and social change is, admittedly, still in its infancy. However, research is occurring at an ever-increasing rate in such interdisciplinary programs as agricultural communication, development communication, health communication, international communication, and environmental communication (Agunga, 1990). It could be argued that these new programs have emerged because agricultural education programs, which should be addressing the teaching and learning aspects of social issues such as the environment, sustainable agriculture and world poverty, do not seem to be proactive. The opportunity exists for agricultural education departments to expand their programs to include: education for sustainable agriculture; environmental education and communication; extension and development; and international development. Several studies indicate that international students account for nearly 60 percent of graduate programs in agricultural extension and education; yet the curriculum barely addresses extension models used in other parts of the world. As we enter the 21st century, agricultural education practitioners would be well advised to adjust to society's changing educational needs.

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