

AGRICULTURE TEACHERS' PERCEPTIONS OF ADULT EDUCATION PROGRAMS: AN EXAMINATION OF CRITICAL EDUCATIONAL NEEDS, OBSTACLES FACED, AND SUPPORT NEEDED

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Although the number of adult programs in agricultural production has dropped off in recent years, the need for these programs has not. This need has been magnified with development and adoption of advanced technology, innovative marketing strategies, new strategies in farm management, and the addition of new agricultural laws and regulations. After reviewing adult education in agriculture in the South, Haynes (1984) indicated that adult farmers in this region are in desperate need of educational assistance, while an absence of adult farmer education programs exists in many Southern school districts. Agnew and Gilbertson (1986) warned that to deny this need for education is to deny that agricultural problems exist or that technologies related to agriculture are changing.

Lee (1981) stated that adult education programs in agriculture do not have the priority, as they did some years ago. Phipps and Osborne (1988) indicated that the 1980's have not supported the agricultural prediction made in the 1970's that adult education programs would grow. They found that only 20 to 25 percent of all secondary agriculture instructors teach adults.

Research has been conducted in few states to identify the educational needs of adults involved in production agriculture. Findings from a study by Lilley, and others (1987) indicated that among the most significant subject matter needs of adults in production agriculture are feeds and feeding, crop production, soil and fertilizers, farm records, farm mechanics, farm/financial management and decision making, government laws and regulations, and long range planning.

Obstacles hampering the development and delivery of adult education programs have been identified in the literature as a possible reason for the current status of adult education programs conducted by secondary agriculture teachers. Christmas (1987) identified the following as obstacles faced by teachers: (a) lack of teacher time, (b) out-of-date technical training and inadequate teaching skills, (c) teacher attitude, (d) lack of appropriate facilities, (e) lack of administrative support, (f) lack of farmer participation, and (g) insufficient funds. Unless there is local support for adult education in agriculture, efforts to develop and implement adult programs will likely result in failure. Various forms of support from the local school administration, business and industry, community, agricultural colleges, and government agricultural agencies have been identified by writers such as Miller (1983) as being needed in order to conduct successful adult education programs.

Purpose and Objectives

The purpose of the study was to determine the critical educational needs, major obstacles, and support needed in the planning and delivery of adult education programs in agricultural production in the Southern region of the United States as viewed by agriculture teachers who have conducted outstanding adult education programs. The specific objectives were to: (1) determine critical educational needs of adults involved in agricultural production as viewed by secondary agriculture teachers; (2) determine major obstacles hampering secondary agriculture teachers in development and delivery of adult education programs as viewed by secondary agriculture teachers; and (3) determine support needed in conducting effective adult education programs as viewed by secondary agriculture teachers.

Procedures

Delphi was the principle procedure used to conduct this study. In its most basic form, the Delphi consists of at least three different instruments which in the present study will be referred to as round one, round two and round three. Brooks (1972), stated that the number of rounds could either be predetermined by the researcher or continued until group consensus is reached.

Selection of the Panel: The state supervisors of agricultural education from 13 Southern states were used as third parties to nominate five secondary agriculture teachers from their own state who, in their opinion, have outstanding adult/young farmer education programs in agricultural production.

The 65 nominees identified and recommended by the state supervisors made up the panel of experts for this study. Anderson and Jones (1986), in writing about the selection and contacting of respondents stated that "once the characteristics of the respondents are identified, the final sample is selected by nomination process in which key people in the target group nominate those who would be in a position to provide the necessary information" (p. 62).

Instrument Development: From the review of literature, an open-ended questionnaire consisting of three separate questions was developed for round one. These questions were validated for content regarding their appropriateness to the objective of the study by a panel of faculty in the Department of Agricultural and Extension Education at Mississippi State University. The round one instrument was then pilot tested in Iowa and Ohio. As the result of the pilot test, the instrument was revised.

Data Collection: Round One. This round consisted of a questionnaire with three open-ended questions. In administration of the first round, the questionnaire must be completely unstructured and open-ended according to several researchers such as Anderson and Jones (1986), Delbecq et al. (1986), Martino (1972), Swanson (1981), and Ulschak (1983). The 65 secondary agriculture teachers were asked to list several answers to each open-ended question under investigation. Frequencies, percentages, and ranks were used to summarize the responses to this round. Similar responses were collapsed and reworded to convey the intent of different responses. This was accomplished by placing each response on a 3x5 card and sorting the cards into stacks of similar responses under each question. Non-response follow-up procedures utilized included a postcard one week after initial mailing, another instrument at the third week, and a certified letter along with another questionnaire at the end of the fifth week. A total response of 55 or 85% was achieved at this round.

Round Two. Responses gathered from round one were converged and incorporated into the round two instrument. The instrument for this round used an anchored 6 point scale with 1 being "strongly disagree" and 6 being "strongly agree." Frequencies, percentages, and ranks were used to distill and refine the second round responses. Follow-up for this round as well as round three consisted of a postcard reminder to all panel members exactly seven days after initial mailing, an additional questionnaire and follow-up letter were mailed at the end of the third week. A total of 54 or 83% of the Delphi panel responded to round two.

Round Three. This round was considered as the final round. According to Delbecq et al. (1986), the final questionnaire "provides closure by permitting respondents to vote on items developed in questionnaire #1 and clarified in #2" (p. 104). Only the statements that more than 50% of the experts in round two chose to "agree" (rating of 5) or "strongly agree" (rating of 6) were included in the round three instrument. The total number of returns from the panel of experts was 54 or 83%. Responses for each statement were summarized using frequencies, percentages, and ranks.

Findings

Critical Educational Needs: Twenty-two critical educational needs were collected from the panel of experts as the result of round one. Consensus was achieved for 15 of these statements in round three. The data in Table 1 show the critical educational needs that more than 50% of the agriculture teachers indicated "agree" or "strongly agree". As can be seen, the most frequently agreed upon item was marketing agricultural products for maximum profit, with 48 panel members reporting this. Forty-six panel members agreed that adults involved in production agriculture need education in record keeping skills. Farm management, and financing were agreed upon by 44 panel members.

Major Obstacles: Table 2 summarizes the major obstacles hampering secondary agriculture teachers in development and delivery of adult education programs in agricultural production. Twenty-five statements were collected as a result of round one. However, consensus was achieved for only six of these statements in round three. The majority (42) of the panel members responding agreed that a lack of time is the major obstacle hampering the conduct of an effective adult program. Insufficient funding earmarked for adult programs was agreed upon by 35 panel members. No extra pay, bonus or incentives for teaching adults, and administrator's inability to envision the responsibility of agriculture teachers in teaching adult students received an equal number, 29, of agree responses.

Table 1
Frequency, Rank, and Percentage of Critical Educational Needs Agreed upon by Panel Members

Rank	Responses	Frequency	Percentage
1	Marketing agricultural products for maximum profit	48	88.9
2	Record keeping skills	46	85.1
3	Farm management	44	81.5
3	Financing	44	81.5
4	Latest farming technology	43	79.6
5	Budgeting	41	75.9
6	Tax laws	39	72.2
7	Technical areas of all kinds of production	36	66.6
7	Developing net worth statements	36	66.6
8	The use of computer for record keeping, farming operation, crop analysis, decision making	35	64.8
9	Governmental regulations	33	61.1
9	Environmental control	33	61.1
10	Alternative crops	32	59.3
11	Futuring agricultural products	30	55.5
12	Dealing with stress	28	51.8

Note. Only the statements with which more than 50% of the experts chose to "agree" (rating of 5) or "strongly agree" (rating of 6) were included.

Table 2
Frequency, Rank, and Percentage of Major Obstacles Agreed upon by Expert Panel Members

Rank	Responses	Frequency	Percentage
1	A lack of time	42	77.8
2	Insufficient funding earmarked for adult programs	35	64.8
3	A lack of motivation by agriculture teacher to conduct adult programs	34	63.0
4	A lack of school released time	32	59.3
5	No extra pay, bonus or incentives for teaching adults	29	53.7
5	Administrator's inability to envision the responsibility of agriculture teachers in teaching adult students	29	53.7

Note. Only the statements with which more than 50% of the experts chose to "agree" (rating of 5) or "strongly agree" (rating of 6) were included.

Types of Support Needed: Question number three gathered information on the support needed in conducting an adult program. As the result of the panel member's responses to this question, two tables had to be developed. Some members of the panel of experts provided the types of support needed in order to conduct effective adult education programs in agricultural production, others mentioned the sources of support needed to conduct such a program. Seven important types of support were collected as the result of round one and consensus was achieved for each statement. The types of support are presented in Table 3.

Table 3
Frequency, Rank, and Percentage of Types of Support Needed in Order to Conduct Effective Adult Education Programs Agreed upon by Panel of Experts

Rank	Responses	Frequency	Percentage
1	Educational support to teachers on a practical level (applied rather than theoretical)	46	85.2
2	Specialist to enhance knowledge of teachers	45	83.4
3	A higher salary for those teachers with adult programs	44	81.5
4	Adequate funds to conduct a worthwhile program	43	79.6
5	The mandate of reduction of duties so that adequate time could be devoted to adult programs	38	70.4
6	Secretarial assistance	32	59.3
7	Additional instructors devoted entirely to adult programs	30	55.6

Note. Only the statements with which more than 50% of the experts chose to "agree" (rating of 5) or "strongly agree" (rating of 6) were included.

Sources of Support Needed: Eighteen sources of support needed to conduct adult education programs were identified by the panel of experts in round one. Consensus was reached for 14 of the sources. These are shown in Table 4. The majority (46) of the panel members stated that the support of agricultural businesses was needed to conduct effective adult education programs in agriculture. The support of agricultural colleges was indicated by 45 panel members, and the support of farmers, community, and local agricultural teachers were each agreed upon by 44 members.

Table 4
Frequency, Rank, and Percentage of Sources of Support Needed in Order to Conduct Effective Adult Education Programs Agreed upon by Panel of Experts

Rank	Responses	Frequency	Percentage
1	Agricultural business	46	85.2
2	Agricultural colleges	45	83.4
3	Farmers	44	81.5
3	Community	44	81.5
3	Local agricultural teachers	44	81.5
4	School administration (principals, voc. directors, others)	41	76.0
4	Experiment Research Station	41	76.0
5	School board	40	74.1
6	Extension Service at the local level	38	70.4
6	Governmental agriculture agencies (SCS, ASCS, others)	38	70.4
7	Federal government	37	68.5
8	Spouse and family	35	64.8
8	Other farm organizations such as Farm Bureau	35	64.8
9	State government	34	62.9

Note. Only the statements with which more than 50% of the experts chose to "agree" (rating of 5) or "strongly agree" (rating of 6) were included.

Conclusions and Recommendations

Through the use of the Delphi technique, secondary vocational agriculture teachers in the Southern region who conduct outstanding adult education programs in agricultural production were able to reach consensus regarding the critical educational needs, major obstacles, and the support needed in order to conduct effective adult education programs in agricultural production. The most critical educational needs of adults involved in agricultural production in the Southern region pertain to farm management and use of the latest farming technology. Secondary agriculture teachers and the state supervisors in the Southern region should focus on these areas when planning adult education programs in agricultural production.

Insufficient time is the number one obstacle hampering secondary agriculture in their efforts to conduct adult education programs. Administrators should allow more released time for agriculture teachers to conduct adult education activities and the teachers should implement strategies to manage their time more efficiently.

The inadequacy of other resources, lack of teacher rewards and benefits, and school administrators with little or no knowledge of the program in agricultural education are also hampering the efforts of agriculture teachers to develop and implement adult education programs. Adequate resources, and additional pay and benefits should be made available to those teachers who wish to conduct programs for adults. School administrators need to be made aware that adult education is a vital component of the program in secondary agricultural education and a primary responsibility of the agriculture teacher. Adult education in agriculture should be recognized as an integral part of the secondary program and be given the same attention as the secondary program, both by teachers and administrators.

Many types of support from a variety of sources are needed by secondary agriculture teachers in order to conduct effective adult education programs. To gain the support of businesses, industries, farmers, and the community in general, agriculture teachers should study community needs and demographics and institute intensive public relations programs.

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