

SUPERINTENDENT AND TEACHER PERCEPTIONS OF ADULT EDUCATION PROGRAMS IN AGRICULTURE

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For over a decade, the adult enrollment in agricultural education programs in Missouri public schools has been steadily increasing. During the 1984-85 school year, 123 secondary schools in Missouri offered classes for adults in agriculture. During the past year, over 6,200 persons were enrolled in agriculture programs for adults in the state. (Missouri Department of Elementary and Secondary Education, 1987). The thrust of these programs was to provide opportunities for participants to acquire knowledge and skills necessary to engage in production agriculture, farm management, and leadership activities. Although increased participation was a positive development, the number of adults enrolled in agricultural education programs in Missouri represented a relatively small percentage of the potential audience.

Theoretical Framework

Previous studies have reported differing views concerning the role of adult education in agriculture. Jewell (1980) concluded that administrators influenced the scope of instruction in agricultural education programs. Stewart, Gott, and Lighari, (1983) reported that school administrators assigned lower priority ratings to the adult component of the agricultural education program than did teacher educators and state supervisors. Gott and Claycomb (1982) reported a lack of support and interest in agricultural education programs for adults by the leaders of secondary schools. Miller and Krill (1985) reported that demographic characteristics were not good predictors of the attitudes of superintendents and failed to explain the variability which was found in the group. Gott (1980) found that only a few items in the adult/young farmer education category were rated in the upper quartile of importance by any group of educators surveyed. Adelaine and Foster (1987) reported that a majority of superintendents, principals, and teachers indicated a somewhat positive attitude toward offering adult programs in agriculture. However, teachers more often agreed that adult education should be provided as a part of the secondary program.

Dramatic changes in agricultural technology, coupled with every-increasing, demographic changes in the agricultural population, have made adult education in agriculture necessary. Agriculture teachers and local school superintendents were identified as the two groups which have been most directly involved in planning, funding, and conducting adult agricultural education programs in secondary schools.

This study was designed to provide information regarding whether the availability and type of agricultural education programs for adults influenced the perceptions of superintendents and teachers. This information was deemed vital for the process of facilitating the integration of adult education into secondary school programs of agriculture. This information was also needed to help in formulating possible strategies for future development and expansion of adult agriculture programs in secondary schools.

Purpose and Objective

The purpose of this study was to ascertain and compare the perceptions of Missouri agriculture teachers and their respective school superintendents regarding adult education as part of the agriculture program in public schools.

The specific objectives of the study were:

1. To assess the perceptions of superintendents and agriculture teachers regarding agricultural education programs for adults.
2. To ascertain if differences exist in the perceptions of superintendents and agriculture teachers regarding four factors related to (i.e. need, benefits, operation, and funding) agricultural education programs for adults when the respondents are grouped by type of program (i.e. no adult program, supplemental adult program, part-time/full-time adult program).

Procedures

An ex post facto design was used in this study. The independent variables were respondent position and type of adult program. The dependent variables were the self-reported scores of respondents on the perception scales included in the data collection instrument. To fulfill the objectives of this study, the following research question was formulated:

Is there a difference in the perception of the need for, benefit of, operation of, and funding of agricultural education programs for adults when analyzed by position (superintendent or teacher), program type (no, supplemental, or full/part-time adult program), and the interaction of position and program type?

The following null hypothesis was formulated and tested at the .05 alpha level.

H_0 : There is no significant difference in the perception of the need for, benefit of, operation of, or funding of agricultural education programs for adults when analyzed by position of superintendent and agriculture teacher and program type of no adult program, supplemental adult program, and full-time/part-time adult program and interaction effect.

The population for this study included 238 agriculture programs in public secondary schools in Missouri. A list of Missouri secondary schools with agriculture programs was obtained from the 1986-87 Vocational Agriculture Directory (Missouri Department of Elementary and Secondary Education, 1986). The population was stratified by program type and categorized according to the following criteria: schools with no adult program, schools with supplemental adult programs, and schools with full/part-time adult programs in agriculture.

There were 135 schools in the no adult program strata and 98 were randomly selected for participation in the study. There were 70 schools in the supplemental adult program strata and 59 were randomly selected for the study. All 33 schools in the full/part-time adult program strata were included in the study. Sample sizes were calculated using the Krejcie and Morgan (1970) formula.

The survey instrument for this study was developed from a review of literature and from suggestions of teacher educators in the Agricultural Education program at the University of Missouri-Columbia. A panel of experts in agricultural education, adult education, and extension education in Missouri reviewed and validated the content of the instrument. Items included in the questionnaire were organized into four categories: need for adult programs, benefits of adult programs, operation of adult programs, and funding of adult programs. Respondents were asked to respond to each item in the questionnaire using a four-point, Likert-type scale. Numerical values were assigned for each possible response category as follows: (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree. The instrument was pilot tested using eight secondary agriculture teachers who were enrolled in a graduate course at the University of Missouri-Columbia. Minor changes were made in the wording of selected items based on the input obtained from the pilot test. Cronbach's alpha was used to estimate the reliability of each category as well as the overall instrument. The reliability estimates were: need for adult programs .77, benefits of adult programs .87, operation of adult programs .69, funding of adult programs .68, and the overall instrument .90.

The survey instrument, a cover letter, and a stamped, self-addressed envelope were mailed to the 380 superintendents and agriculture teachers selected for the study in December of 1987. Two follow-up mailings were made. A total of 174 superintendents and 178 agriculture teachers, or 93 percent of the sample, returned usable instruments. A comparison of 179 early and 73 late respondents (Miller and Smith, 1983) revealed no significant differences between their perceptions regarding agricultural education programs for adults. The comparisons were made using analysis of variance procedures.

Analysis of Data

To assess the perceptions of superintendents and teachers, means and standard deviations were calculated for each item on the questionnaire. Multivariate analysis of variance (MANOVA) followed by univariate analysis of variance (ANOVA) procedures were used to test the hypothesis for significance at the .05 alpha level. Hotelling-Lawley's trace was the statistical procedure used to ascertain significant differences for each comparison. The least-squares means procedure was used to identify differences among subgroups.

Results

The response rate by group ranged from a low of 89 percent of the superintendents with no adult program to a high of 97 percent of the agriculture teachers with part-time/full-time adult program. Overall, 93 percent of those selected to participate in the study provided usable responses.

The means and standard deviations for all items, for each group are available from the authors. The superintendent and agriculture teacher groups were in general agreement regarding the importance of adult education in agriculture as indicated by mean scores above 2.5 for 49 of the 63 items on the instrument. However, when the responses were analyzed by position (teacher or superintendent) and by program (no, supplemental, or full/part-time adult program), significant differences were identified for each category of the instrument. The summary of the MANOVA tests for responses by position and program are presented in Table 1. ANOVA and least-squares means procedures were then employed to identify the differences by section of the instrument.

Table 1
MANOVA Test by Position, Program, and Interaction Effect

Category	Level	Hotelling- Lawley's trace	F	df	p
Need	Position	0.34	6.50	5,281	.01
	Program	0.23	2.23	5,281	.01
	Interaction	0.18	1.76	5,281	.01
Benefits	Position	0.23	4.49	5,308	.01
	Program	0.26	2.58	5,308	.01
	Interaction	0.17	1.64	5,308	.02
Operation	Position	0.48	6.79	5,271	.01
	Program	0.32	2.24	5,271	.01
	Interaction	0.13	0.89	5,217	.66
Funding	Position	0.70	13.43	5,329	.01
	Program	0.19	1.88	5,329	.01
	Interaction	0.08	0.80	5,329	.78

Differences were found in the perception of superintendents and teachers regarding the need for adult programs in agriculture. Ten items were found to be rated significantly different by superintendents and agriculture teachers. Significant differences were found among respondents when analyzed by type of program for seven items. A significant interaction effect was also found for one item (see Table 2). Superintendents rated items higher that broaden the role of adult programs while teachers rated items higher that reflect a traditional production orientation for adult programs. In addition, persons from schools with active adult programs rated items higher that related to traditional programming for adults.

Differences were found in the perception of superintendents and teachers regarding the benefits of adult programs in agriculture. Ratings for 11 items were found to be significantly different between superintendents and agriculture teachers. A significant difference was found among respondents for four items when analyzed by type of program. A significant interaction effect was also found for three items. Teachers were more positive in the ratings of the outcomes of the program and persons from schools with active adult programs were all more positive about outcomes.

Differences were found in the perception of superintendents and teachers regarding the operation of adult programs in agriculture. The ratings of seven items were found to be significantly different between superintendents and agriculture teachers. A significant difference was found among respondents for six items when analyzed by type of program. No significant interaction effect was found. Teachers rated items higher that related to the role of the local school in supporting the delivery of programs for adults as did the respondents from schools with active adult programs. Differences were found in the perception of superintendents and teachers regarding the funding of adult programs in agriculture. The ratings for 13 items were found to be significantly different

Table 2
Comparisons of Subgroup Means for Items Which Produced Significant Interaction Effects

Item	Superintendents			Teachers		
	A*	B	C	A	B	C
Need						
Adults in district want more ag related info	2.95 ^{a**}	2.98 ^a	2.97 ^a	2.89 ^a	3.06 ^a	3.39 ^b
Benefits						
-Participants benefit by developing mgt. skills	3.15 ^a	3.13 ^a	3.27 ^a	3.11 ^a	3.33 ^b	3.59 ^c
-Compared to other ag teachers, those who work with adults become more effective teachers of secondary students	2.74 ^a	2.99 ^a	2.59 ^a	2.83 ^a	3.11 ^b	3.31 ^b
-Compared to other teachers, those who work with adults realize greater job satisfaction	2.82 ^{bc}	2.67 ^{ab}	2.48 ^a	2.73 ^{ab}	2.98 ^c	2.90 ^{bc}

*A = no adult program, B = supplemental adult program, C = full/part-time adult program.

**Different letters indicate significantly different means as indicated by least-squares means procedure.

between superintendents and agriculture teachers. A significant difference was found among respondents for seven items when analyzed by program type. No significant interaction effect was found. Teachers rated items higher which related to using local resources to support adult programs as did persons from schools with an active adult component. The superintendent group rated items higher which supported the use of funds from sources other than those provided locally. Therefore, the null hypothesis of no difference in the perceptions of the need for, benefits of, operation of, or funding of adult programs in agriculture was rejected.

Conclusions

Superintendents and agriculture teachers have a positive perception of the need for and benefits derived from agricultural education programs for adults in Missouri.

Superintendents support the concept that agricultural education programs for adults should be primarily funded from sources other than the local school. Agriculture teachers support the concept that agricultural education programs for adults should be partially funded by the local school.

Agriculture teachers and superintendents from schools that are involved in working with adults are more positive about the adult component of the program.

Discussion

While all respondents were basically supportive of the adult phase of the agriculture program, the differences in responses of teachers and superintendents have implications for educational leaders. Teachers placed more emphasis on the importance of providing agricultural education to adult participants who need help with production and management problems. Their responses reflect the fact that, by virtue of their job, they were more aware of the problems of agriculture and the potential role of adult education in traditional areas. On the other hand, superintendent perceptions of the need for adult programs were broader and would involve persons not currently being served.

Agriculture teachers were more positive about benefits that could be derived from the program by the participants, the school, and the community. Teachers should identify additional ways of sharing data that support the positive outcomes of adult programs with administrators.

The views of superintendents and agriculture teachers also differed in the operation of the program. Unlike the previous general areas, items in this category focused on program implementation issues. For the question of who should teach adults, superintendents felt that the job could best be handled by the full-time secondary teacher. Agriculture teachers, on the other hand, felt that to make the program most effective, a full-time or part-time adult teacher was needed. When asked about instructional areas, teachers felt that the emphasis should be on production agriculture and agricultural business management while superintendents supported expanding the instructional base of the program. It would seem that administrators desire to serve greater numbers of people by increasing the scope of instructional programs for adults.

The differences between the views of superintendents and agriculture teachers were most evident in the area of funding. Superintendents indicated that the financial resources available to the school should be used primarily for teaching secondary students. Teachers indicated that the program should be financed in a manner similar to secondary programs and downplayed the role of agribusinesses in financing the program. Clearly, the availability of resources other than local tax dollars can have a great impact on the expansion of programs of agriculture for adults.

The differing views of superintendents and teachers on the issues of operating and funding of adult programs are barriers which impede further program development. Program leaders should formulate models for the development of adult programs which accommodate differing methods of organization and funding. Such models could then be used with agriculture teachers and administrators to enhance local support for the adult phase of the program.

References

- Adelaine, M.F., & Foster, R.E. (1987). Attitudes of Nebraska superintendents, principals, and vocational agriculture instructors about the delivery of adult education through secondary vocational agriculture programs. Paper presented at the 41st Annual Central States Research Conference in Agricultural Education, Chicago, Illinois.
- Gott, R.E. (1980). Professional education competencies needed by teachers of vocational agriculture in Missouri as perceived by superintendents, principals, area vocational technical school directors, and agricultural educators. Unpublished doctoral dissertation, University of Missouri-Columbia.
- Gott, R.E., & Claycomb, D.E. (1982). Perceptions of the value of adult/young farmers education competencies needed by vocational agriculture teachers. The Journal of the American Association of Teacher Educators in Agriculture, 23(1), 48-56.
- Jewell, L.R. (1980). Opinions of school administrators concerning vocational agriculture programs. The Journal of the American Association of Teacher Educators in Agriculture, 11(3), 58-65.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research. Educational and Psychological Measurement, 30, 607-610.
- Miller, L.E., & Krill, T.L. (1985). Attitudes of superintendents of Ohio comprehensive high schools toward adult programs. Paper presented at the Twelfth National Agricultural Education Research Meeting, Atlanta, GA.
- Miller, L.E., & Smith, K.L. (1983). Handling nonresponse issues. Journal of Extension, 21, 45-50.
- Missouri Department of Elementary and Secondary Education (1987). Shaping the future of agricultural education: Progress report, Jefferson City, MO.
- Missouri Department of Elementary and Secondary Education (1986). Vocational agriculture directory 1986-87, Jefferson City, MO.
- Stewart, B.R., Gott, R.E., & Lighari, L. (1983). Administrators perceptions of professional education competencies needed by teachers of vocational agriculture. Journal of the American Association of Teacher Educators in Agriculture, 24(3), 22-31.