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ABSTRACT

The status of middle and junior high school agricultural education and Future Farmers of America (FFA) programs in the United States was the focus of a study. Data were collected through a census of the FFA executive secretaries and a survey of a purposive sample of 27 successful middle or junior high school agricultural education programs in 9 states. Questionnaires were returned by 52 of 53 FFA executive secretaries, 23 of 27 teachers, and 598 students. Findings showed that executive secretaries, teachers, and students saw many benefits and outcomes from these programs. Many said that these programs serve to recruit students into high school programs. Few disadvantages were cited. There was no conclusion about the core curricula for these programs and what, if any, FFA competitions should be held. The respondents raised concerns regarding who should pay for these programs and how the FFA chapter should be organized and chartered. Students looked forward to having hands-on activities, having fun, learning about agriculture, and having a teacher who was kind and concerned. Students who selected the program as an elective course generally seemed pleased and were very likely to enroll in high school agricultural education. The population served by these programs was composed primarily of white males who lived in rural areas. (Contains 10 references.) (YLB)

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Summary of Research

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AN EXAMINATION OF MIDDLE SCHOOL ENROLLMENT IN AGRICULTURAL EDUCATION AND MEMBERSHIP IN THE NATIONAL FFA ORGANIZATION IN THE UNITED STATES

Rosemarie Rossetti, David Padilla, and N.L. McCaslin

A constitutional amendment was passed at the 1988 National FFA Convention that officially allowed middle school aged youth membership into the National FFA Organization. Many states had previously been serving these youth through agricultural education and FFA programs. In 1985, over 22% of all secondary agriculture instructors taught one or more junior high or middle school courses in agriculture (Phipps & Osborne, 1988).

Enrollment in agricultural education programs and membership in the National FFA Organization peaked in the 1976-77 school year with 697,499 students enrolled in secondary programs and 509,735 students as members in the FFA (National Research Council, 1988). From 1977 to 1991, membership in the FFA experienced a continual decline. During this 14 year period membership dropped 25% (FFA, 1990-91). Membership started to increase beginning in 1991-92. At this time there were 401,574 members, and in 1992-93 there were 417,462 members (B. Slack, personal communication, October 15, 1993).

With an interest in increasing enrollment in secondary agricultural education programs and membership in the National FFA Organization, many agricultural educators turned their attention to exploratory agricultural education programs in the middle grades (grades 6, 7 & 8). These educators assumed that if enrollment in the middle grades increased, enrollment in the secondary programs would also increase. It was also assumed that increased enrollment in agricultural education programs would increase membership in the National FFA Organization.

Much of the literature regarding middle school agricultural education programs is contradictory regarding recruitment. Herren and Denham (1990) believed that a properly conducted middle school program can be an asset to the secondary program in the area of recruitment. However, Doese and Miller (1988) concluded that vocational agriculture enrollments would be suffering in the 1988-89 school year as well as later. They also concluded that the majority of the eighth grade students were not planning on enrolling in vocational agriculture their freshman year. However, some students planned on enrolling some other time during their high school career.

Luft (1990) pointed out that agricultural education programs at the junior high level may spark an interest in some students that had not previously given any thought to studying or pursuing a career in agriculture. Junior high school agricultural education instruction, which focuses on agricultural subjects, serves as a means of recruiting students for the secondary program. In addition, Hedrich (1985) believed that the first step to exposing more students to the agricultural education area is to teach an exploratory course for seventh and eighth grade students.

Deeds, McGrew and James (1990) indicated that, throughout the history of agricultural education, the FFA has been touted as the best recruitment tool available for encouraging students to enroll in the program. They pointed out that the Junior FFA can provide the same function in the presecondary program while also providing students with personal growth and success experiences.

Agricultural educators have agreed that the benefit of middle school agricultural education programs is recruitment for the secondary programs. In addition, other benefits were cited. Agricultural education at the middle school can help increase the number of individuals in our society that may be more agriculturally literate (Luft, 1990). Moreover, Herren and Denham (1990) indicated that, middle school agricultural education programs increase both the agricultural literacy level of the students and the agricultural awareness of the community.

Hedrich (1985) indicated that an exciting aspect of seventh and eighth grade agricultural education programs is that students can start their Supervised Occupational Experience Program (SOEP) earlier. This gives students additional time with their SOEP and they can be recognized for FFA membership at the national level.

Agricultural education programs in the middle grades are generally exploratory in nature. They are designed to provide an overview of career opportunities in the broad areas of agriculture. Many programs also serve to orient students to a broad set of topics about agriculture. Orientation courses in agriculture serve as the basis for selecting more specialized areas of agriculture for further work and study at the upper grade levels (Phipps & Osborne, 1988). Herren and Denham (1990) indicated that Georgia middle school programs are designed as an introduction rather than an in-depth study of the agricultural discipline.

Waidelich (1990) said that if middle school agricultural education programs are to be productive, curriculum designers and instructors need to understand a new educational concept that incorporates agricultural literacy programs, courses for a semester or less, interdisciplinary approaches, and personal development. Course content should not be production agriculture oriented, rather activities such as vegetable and house plant propagation, care and identification; companion animal care; and agribusiness career shadowing must be emphasized.

Statement of the Problem

If agricultural education programs for middle school students are to be developed and improved, additional information is required. Information needed includes: data on enrollment, curriculum content, factors influencing students' enrollment decisions, and strengths and weaknesses of the existing programs. Based on this information,

agriculture educators would be in an improved position for planning, operating and evaluating middle school programs. At the present time, these data and information are not available.

Purpose and Objectives

This study examined the status of middle and junior high school agricultural education and FFA programs in the United States. The specific objectives were as follows:

1. To establish national baseline information regarding middle and junior high school enrollment in agricultural education and membership in the National FFA Organization.
2. To identify features and components of selected successful middle and junior high school agricultural education programs.
3. To identify factors influencing students' decisions to enroll in selected middle and junior high school agricultural education programs and become members in the National FFA Organization.
4. To determine why middle and junior high school students do not plan to enroll in selected agricultural education classes or become members of the FFA in high school.
5. To identify the perceived benefits and disadvantages of middle and junior high school agricultural education programs.

Methodology

This study was developed as descriptive survey research. This section reports information on the population, instrumentation, validity, reliability, and data analysis.

Population and Sample

This study included a census of the FFA executive secretaries in the United States; including one from each state, the District of Columbia, Puerto Rico and the Virgin Islands. Data from a purposive sample of 27 successful middle or junior high school agricultural education programs in nine states were also collected. The nine states were selected by a panel of experts representing the national FFA organization, teacher education and state FFA organizations. These states were selected based upon their enrollments in middle or junior high school agricultural education programs and included: Alabama, Florida, Georgia, Louisiana, Mississippi, New York, Oklahoma, Virginia and Wisconsin. The FFA executive secretaries in

the nine selected states were asked to identify three successful middle or junior high school agricultural education programs in their states that had stable or increasing FFA membership.

Instrumentation

The questionnaires used for this study were designed by the researchers. A review of related literature and interviews with selected teacher educators, state FFA executive secretaries and leaders from the National FFA Organization, and a graduate student (former middle school agriculture teacher) preceded the design of the instruments.

The FFA executive secretary questionnaire was designed to describe the national baseline enrollment figures, the nature of agricultural education programs in the middle and junior high schools, and opinions of the secretaries regarding the benefits of such programs.

The teacher questionnaire sought to describe enrollment figures, topics taught, course outlines, organization of FFA chapter, FFA dues, recommendations, recruitment advice, program benefits and elements of successful middle or junior high school agricultural education programs.

The student questionnaire gathered demographic information such as grade level, gender, race, and place of residence. Information on the students' opinions regarding their reasons for enrollment and evaluation of their programs and teachers was also collected.

All questionnaires were collected through mail survey techniques. Non-respondents were contacted through a second mailing in order to collect their data. Follow-up phone calls encouraged teachers to return the questionnaires.

Validity

The face and content validity of the three questionnaires was established by a panel of teacher educators and a graduate student. Comments from the panels were reviewed and revisions in the instruments were made.

The FFA executive secretary questionnaire was then pilot tested with the FFA executive secretary in Ohio. The teacher questionnaire was pilot tested with two Ohio eighth grade agriculture teachers, while the student questionnaire was pilot tested in these teachers' classes.

Reliability

Two Ohio eighth-grade agricultural education classes were used to determine the reliability of the students' questionnaire. Test-retest procedures were used to determine coefficients of stability. There was a two-week interval between the test and retest. The coefficient of stability for the student questionnaire was .84.

Data Analysis

All completed questionnaires were coded by the researchers. Data were entered into a personal computer and analyzed using the Statistical Package for the Social Sciences. Descriptive statistics were used for the teachers' and students' data. Data from open-ended responses were summarized and categorized by the researchers searching for a common pattern of responses. Frequencies and percentages were calculated for the responses and responses were listed in rank order.

Findings

The following section presents the results of this study. The results are presented for the FFA executive secretaries, students and teachers.

From FFA Executive Secretaries

Fifty-two of fifty-three questionnaires were returned. Thirty states reported having middle or junior high school agricultural education programs. Nineteen states reported having FFA members at these levels. Table 1 shows the total enrollment and membership in the sixth, seventh, and eighth grades.

The earliest reported sixth grade program was in Mississippi in 1974. Vermont reported that it started the first seventh grade program in 1930. Virginia reported that eighth grade programs began there in 1926. Sixth graders were first admitted to membership in the FFA as early as 1974 in Mississippi. The first state to accept seventh graders into the FFA was Louisiana in 1960.

Fourteen FFA executive secretaries indicated that their states had core curricula for the middle and junior high school agricultural education programs. Eighteen secretaries said they had no core curricula. Twenty secretaries did not address this question because they did not offer middle school programs in agricultural education. Table 2 lists the topics included in core curricula in rank order.

Table 1
ENROLLMENT IN PROGRAMS

Grade Level	Schools with Ag. Ed.	Students in Ag. Ed.	Ave. Program Length	Schools with FFA	Students in FFA
6th	21	924	9 wks.	15	124
7th	514	22,056	20 wks.	378	4,730
8th	1,012	29,988	21 wks.	853	12,868
Total	1,547	52,968	17 wks.	1,246	17,722

Table 2
TOPICS IN CORE CURRICULUM

Topics	f
Plant Science	9
Career Exploration	8
Agricultural Literacy	7
Animal Science	7
Conservation	7
Mathematics	7
Agricultural Mechanics	6
Soil Science	6
Public Speaking	6
Human Relations	6
Ecology	6
Leadership	6
Writing	6
Social Skills	6
Supervised Agricultural Experience	5
Employability Skills	4
FFA Meeting Procedures	4
Parliamentary Procedures	4
Using Microcomputers	4
Agricultural Marketing	4
History of FFA	3
Role of FFA	3
International Agriculture	3

Table 3
ENROLLMENT IN PROGRAMS

Grade	No. of Students	Average Length of Program	FFA Enrollment
6th	572	15 wks.	51
7th	1,577	20 wks.	494
8th	823	27 wks.	414
Total	2,972	21 wks.	959

Seventeen state FFA executive secretaries (37%) indicated that they provided state level competition for middle and junior high school FFA members. Fifteen secretaries (29%) indicated they do not provide state level competition. For those that did hold state level competition, 14 held it in conjunction with the high school FFA events. Six states indicated that competition was separate from high school FFA events. Four states indicated that competition included the sixth grade, while 14 states said the competition included the seventh grade, and 17 states said the competition included the eighth grade. The top five state competitions included: creed, livestock judging, public speaking, crops, and all contests.

Regarding the state FFA executive secretaries' suggestions about national competition for middle and junior high school FFA members, 14 secretaries believed there should not be national competition. Seven secretaries encouraged national competition.

Twelve state FFA executive secretaries indicated the middle or junior high school FFA chapter were organized separately from the high school chapters. Twenty-four indicated the chapters were joint chapters with the high school FFA.

Twenty-seven states require FFA dues for middle or junior high school FFA members. The average dues payment was \$3.98.

Seven state secretaries indicated they used federal funds to finance agricultural education programs in middle and junior high schools. Fourteen indicated they used state funds and 31 indicated they used local funds.

The secretaries pointed to the agricultural education instructor as the major encourager of middle or junior high school enrollment. Others commented that the FFA activities and competitions also encouraged students to enroll.

Twenty secretaries cited the school systems and policies as the major barriers to enrollment. Examples included: no state/federal funds, lack of staff to expand programs, lack of available programs, and teacher shortages.

The major student benefit of middle and junior high school agricultural education programs, according to the secretaries, is improved agricultural literacy. Other secretaries indicated that another benefit was increased enrollment at the high school level.

The most frequently selected response to the question, "What are the disadvantages to states who enroll middle or junior high school students in agricultural education programs?" was "There are no disadvantages." A few secretaries cited student burn out as a potential disadvantage.

Secretaries reported that the major benefit to the state for having middle and junior high level agricultural education programs was increased enrollment. They also indicated that the population was becoming better educated as a result. Generally, they reported no disadvantages.

Twenty-five secretaries indicated that middle or junior high school membership in the FFA helped to increase membership in the high school FFA. Three secretaries disagreed.

From the Teachers

Twenty-three (85%) of the 27 teacher questionnaires were completed and returned. Table 3 shows the total enrollment and membership, and program length in the sixth, seventh and eighth grades for these programs.

Fourteen (61%) of the teachers indicated that the middle or junior high school FFA chapter was organized separately from the high school. Seven (30%) teachers said the chapter was a joint chapter with the high school FFA.

Eighteen of the teachers indicated that FFA dues were required for the students. Nine of these teachers charged local dues ranging from fifty cents to seven dollars. The average local dues charged was \$2.56. Twelve teachers charged students state dues. The range was from \$1.00 - \$7.00 with an average of \$4.04. One teacher charged \$3.50 for national dues. The total dues charged to FFA members ranged from \$2.50 - \$10.00 with the average being \$6.40.

Twenty-one teachers indicated they had core curricula for the middle and junior high school agricultural education programs. The most frequently taught topics reported in rank order are: animal science, history of FFA, leadership, plant science, parliamentary procedures, role of FFA and career exploration.

Twenty teachers reported they provided local competition for middle or junior high school FFA members. Fourteen of these teachers reported that competition was held in conjunction with the high

school FFA events. Fourteen teachers reported that competition was between schools at a county, area or district level. Nine teachers indicated that competition was held between schools at the state level. The specific local level competitions held are listed in rank order: public speaking, livestock judging, soils, creed speaking, parliamentary procedures and dairy judging. Four teachers reported there should not be national competition for this age student, however, four different teachers encouraged national competition.

Eleven teachers identified the FFA activities as the major encourager of middle or junior high school enrollment. FFA contests and the BOAC program were cited as example activities.

The major barrier to student enrollment, cited by the teachers, was that most potential students think the programs are all about farming. Five teachers cited scheduling as a barrier to recruitment. The school system and policies were cited by five teachers.

The major benefits and outcomes of middle or junior high school agricultural education programs, as indicated by nine teachers, was student awareness about agriculture. Another benefit, cited by eight teachers, was the chance for students to develop themselves. Participation in FFA activities was another benefit.

Teachers generally stated there were no disadvantages to students who enroll in their middle or junior high school agricultural education programs. Two teachers cited burn out as a disadvantage and two teachers cited the lack of having supervised occupational experience programs.

Teachers identified the major benefit and outcome of their middle and junior high school agricultural education programs was the increase in public relations and publicity received. Other teachers saw retention and recruitment of students as advantages.

Eleven teachers reported there were no disadvantages to schools who enroll middle or junior high school students in agricultural education programs. Those who cited disadvantages, cited burn out and scheduling problems.

To better understand the secrets of the teachers' success, the teachers identified critical components. Seven teachers listed the parents as important to the success of their programs. They also gave credit to themselves, saying that a

successful teacher needed to be patient, enthusiastic, flexible, innovative, enjoy students and love the FFA.

When describing the critical components of a successful middle or junior high school FFA program, teachers again cited themselves. They stated that the teacher needed to be enthusiastic, creative, involved, aware and be a strong promoter of the FFA. Successful FFA programs have a host of supporters including: school administrators, parents, high school FFA chapter, FFA alumni, advisory council and community members.

Nineteen teachers believed that middle or junior high school membership in the FFA helped to increase membership in the high school FFA. Two teachers, however, disagreed.

From the Students

Student data were collected from 598 students at 23 middle and junior high schools from the nine selected states. There were nine (1.5%) sixth graders, 253 (42.3%) seventh graders, 266 (44.5%) eighth graders and 68 (11.4%) ninth graders. Thirty-three percent of the sample were female, while 67% were male. Eighty-three percent of the sample were white (Caucasian), 13% were Black, 2% were Native American, 1% were Hispanic, and 1% were Asian. Seventy-seven percent lived in the country or in small towns, but not on farms, 16.7% lived on farms and 6.2% lived in large cities.

Fifty-three percent said they planned to enroll in agriculture classes in high school, while 30% were undecided and 17% said they would not enroll. The top reason cited for not enrolling was that they were not interested in agriculture. For those planning to enroll in high school, 84% also planned to be a member of the FFA. Thirteen percent were undecided, while 3% said they did not plan to be members of the FFA, mostly due to a lack of interest.

Students reported that the agriculture teacher was the most influential person when they made the decision to enroll in agricultural classes. Students' parents also encouraged them to enroll. The students reported their friends were the ones most likely to discourage them from enrolling, however, only 5.8% indicated they were discouraged by friends. Fifty-six percent of the students indicated that the middle or junior high school agriculture class in which they were enrolled was not required, while 44% indicated that it was required.

For those students who indicated that the class was not required, they revealed their reasons for enrolling. There were a total of 309 reasons given. The top eight categories, and percent of students indicating the reason, were:

1. It is a fun class. (14.2%)
2. You learn about agriculture. (13.6%)
3. You learn about animals. (8.4%)
4. I like to work with my hands. (7.1%)
5. I didn't want to be in other courses. (7.1%)
6. I am interested in the FFA. (6.1%)
7. I didn't enroll, I was placed. (5.1%)
8. I am interested in it. (5.1%)

Students also shared what they liked best about their agriculture classes. There were 585 comments. The top eight categories and percent of students responding follows.

1. I like to work with my hands. (31%)
2. It is fun. (9.2%)
3. Planting plants. (7.3%)
4. Learning about animals. (6.6%)
5. Learning about different things. (6.5%)
6. Working outdoors. (5.3%)
7. The teacher and teaching. (5.0%)
8. It is easy. (4.8%)

Regarding the things the students liked best about their agriculture teachers, there were 445 responses. The top five categories, and percent of students responding, were:

1. The teacher is nice. (28.1%)
2. The teacher is funny. (18.2%)
3. The teacher helps students. (8.4%)
4. The teaching method used. (8.3%)
5. The teacher is good. (5.0%)

Students shared what they liked least about their agriculture classes. There were 498 comments. The top five categories, and percent of students responding, were:

1. Nothing. (18.6%)
2. The classroom work. (14.6%)
3. The kind of work. (11.4%)
4. The class is boring. (12.7%)
5. Taking notes. (10.4%)

Regarding what the students liked least about their agriculture teachers, there were 414 responses. The top five categories, and percent of students responding, were:

1. Nothing. (42.2%)
2. Teacher personality. (30.0%)

3. Teacher over-works students. (11.0%)
4. Punishment tactics. (3.1%)
5. I don't know. (2.4%)

Seventy-one percent of the students indicated they were members of the FFA, while 29% said they were not. Students who were members cited 401 things they liked best about being a member. The top five categories, and percent of students responding, were:

1. Trips. (16.2%)
2. Meeting people. (13.4%)
3. Having fun. (13.4%)
4. Activities. (13.4%)
5. Contests. (7.5%)

On the other hand, there were 278 responses to what these FFA members liked least about being a member. The top five categories, and percent of students responding, were:

1. Nothing. (51.0%)
2. The work. (9.3%)
3. I don't know. (6.1%)
4. Lack of things to do. (6.1%)
5. Have to do things related with the organization. (5.7%)

Implications and Recommendations

The data collected from successful middle and junior high school programs in the United States offer insight into how these programs operate. The FFA executive secretaries, teachers and students saw many benefits and outcomes from these programs. Many indicated these programs serve to recruit students into high school programs. Few disadvantages were cited. There was no conclusion about the core curricula for these programs and what, if any, FFA competitions should be held. The respondents raised a concern regarding who should pay for these programs. Another concern raised by the respondents was how should the FFA chapter be organized and chartered.

When one looks at the length of the programs, there is diversity ranging from 4 to 36 weeks in length. There is a need to explore what program length is optimal.

Middle and junior high school students look forward to having hands on activities, having fun, learning about agriculture and having a teacher who is kind and concerned. Students who selected

the program as an elective course generally seemed pleased and were very likely to enroll in high school agricultural education.

The population served by these programs was comprised primarily of white males who lived in rural areas. If enrollment is to increase, it seems logical to broaden the population and the area served by these programs.

Based on the findings, a series of recommendations were developed. The following recommendations were offered.

1. Since the FFA is an intracurricular activity, The National FFA Organization, the U.S. Department of Education, and the U.S. Department of Agriculture should encourage development of a middle and/or junior high school agricultural education core curricula that includes its mission, content, goals and objectives, experiential learning strategies, articulation with other agricultural education programs and funding options prior to expanding FFA programs to that level.
2. Promotional efforts to increase middle and junior high school membership in the FFA should give particular attention to attracting under represented groups such as minorities and females. It should also target specific promotions for students in urban and suburban areas.
3. Agricultural educators should consider these findings when working with boards of education, administrators, and guidance counselors in establishing policies (e.g., funding, scheduling, staffing) that are conducive to middle and junior high school agricultural education and FFA programs.

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SUMMARY OF RESEARCH SERIES

Agricultural education programs in the middle grades are generally exploratory in nature. They are designed to provide an overview of career opportunities in the broad areas of agriculture. Many programs also serve to orient students to a broad set of topics about agriculture. Agricultural education at the middle school can help increase the number of individuals in our society that may be more agriculturally literate. This study examined the status of middle and junior high school agricultural education and FFA programs in the United States. It should be of interest to the National FFA Organization, the U.S. Department of Education, the U.S. Department of Agriculture, state supervisors, teacher educators, agriculture teachers, and others who are responsible for designing curriculum and operating agricultural programs in our schools.

This summary is based on research conducted by Rosemarie Rossetti, Assistant Professor; David Padilla, Graduate Research Associate; and N. L. McCaslin, Associate Professor; Department of Agricultural Education, The Ohio State University. Special appreciation is due to Thomas L. Grady, Southwest Texas State University; Randol G. Waters, The University of Tennessee; and Larry E. Miller, The Ohio State University for their critical review of the manuscript prior to publication.

Research has been an important function of the Department of Agricultural Education since it was established in 1917. Research conducted by the Department has generally been in the form of graduate theses, staff studies, and funded research. It is the purpose of this series to make useful knowledge from such research available to practitioners in the profession. Individuals desiring additional information on this topic should examine the references cited.

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