

North Carolina Home School Providers' Perceptions Of Agricultural Education

Jason Walls, Public Relations Director, Prestage Farms, Inc.
Jim Flowers, North Carolina State University
Gary Moore, North Carolina State University

Abstract

The purpose of this study was to determine (a) the level of interest of home school providers towards agricultural education, including Supervised Agricultural Experience programs and FFA, (b) what potential resources would be needed for instruction, and (c) whether interest of home school providers toward agricultural courses was based upon the home school being located in a rural, suburban, or urban location.

Data were collected by using a mailed questionnaire sent to 500 home education providers in nine counties throughout North Carolina. The counties were selected based upon classification as a rural, suburban, or urban county. Data were analyzed utilizing descriptive statistics. It was concluded that home school providers were interested in agricultural courses, such as horticulture, and would be interested in teaching resources such as a textbook. Home education providers were somewhat less interested in FFA membership and participation. This study also found that supervised agricultural experience programs were of interest to most home school providers. There was no difference among home school providers in rural, suburban, and urban locations in interest level in of providing agricultural courses for their students.

Introduction/Theoretical Framework

Should all students be given the opportunity to learn about the food, fiber and natural resource systems? If the answer is yes, the question that remains is whether non-public school educated students should be provided opportunities to enroll in agricultural courses, have active membership in the National FFA Organization, and participate in supervised agricultural experience programs.

It is estimated that there are 1.5 million children home schooled across the country (Kantrowitz and Wingert, 1999). According to Orsi (1998), home schools are one of the fastest growing segments within education. With a growth rate of nearly 15% per year, home education will need new educational opportunities for students (Orsi, 1998). Lines (1999) noted that, according to the United States Department of Education, home education has seen tremendous growth during the past decade and is not expected to slow.

Reasons why parents choose home schools for their children are various, depending upon the family and student needs. Rust and Reed (1980) believed that home school parents were dissatisfied with state-controlled schools. However, according to Koetzsch (1997), the most common reason that families choose home education was for religious-based instruction. Linden (1983) found that home education was important for families who wished to shield their children from negative influences of the public schools. Williams (1984) found that parents choose home

education because of unsuitability of the child for school, desire to control the learning process, socialization, control of the content taught, and personal interest. Headley (1998) stated that home education was advantageous for families because it permitted parents to establish and control curriculum, the educational process and values that their children would be exposed to while attending school. With the increase of school violence within the public education system, more parents view home education is a safe alternative to the public schools (Koetzech, 1997).

Unlike the public school system, there is no universal curriculum used by home school providers. According to Ray (1997), over 70% of home school parents customize the curriculum for their children. This allows the parents to adjust the curriculum to best suit the child's interest or family lifestyle. Schemmer (1985) found great variety in the curriculum used, and that most home school providers used curriculum produced by commercial publishers. Mattingly's (1990) study of home schools in Kentucky and Indiana concluded that most curriculum used by home schools was commercially-prepared, self-paced programs. Mattingly concluded that home school providers purchase instructional material at home-schooling training seminars and teacher supply retailers and extensively relied on textbooks from public school suppliers.

With the increasing role of online technologies, many home school providers have begun to use online courses for complete or supplementary instruction (Zehr, 1999). Home educators have also begun to look at the public school system in providing services to their students. In Idaho, a system of dual-enrollment allows students from home and private schools to have access to public schools for a portion of the day (Diegmuller, 1995). Holt (1983) believed that home schools and public schools should cooperate and provide opportunities for home schools students to come for partial days, use public school facilities, and attend specialty course such as band and home economics.

Frick and Brennan (1998) noted that home educators could benefit from instructional materials and learning activities offered through agricultural education courses. Agricultural education materials could be combined with "hands-on" learning opportunities and supervised agricultural experience programs to provide work-based learning opportunities, and FFA activities would provide home education with activities that link classroom instruction and the application of skills (Frick and Brennan 1998).

A variety of courses in North Carolina are listed among the Agricultural Education Course descriptions that could be suitable for students who are home educated. The potential courses are as follows: (1) Agricultural Production and Management, (2) Agriscience Applications, (3) Animal Science, (4) Environmental and Natural Resources Studies, (5) Exploring Biotechnology, and (6) Horticulture.

The integration of classroom instruction, supervised agricultural experience programs and FFA membership within home education is a relatively new inquiry in the agricultural education profession. Because of the brevity of research conducted within home education, the "knowledge gap" of a potential relationship of agricultural education and home education is quite profound. Archer (1999) suggested that although home education continues to grow, many researchers have avoided the topic. Sampling problems, risk of being labeled an advocate or

opponent, and lack of funding are reasons that home education still remains, in many regards, a mystery to many educational researchers (Archer, 1999).

Home education providers try to encourage their children to participate in leadership and social development activities ranging from religious based organizations to Scouts. Wingenbach and Kahler (1997) addressed the issue of perceived advanced youth leadership and life skills in their study. From their investigations, they found that leadership and life skills development were defined as skills in communications, decision making, interpersonal relationships, learning, resource management, understanding self, and working with groups (Wingenbach and Kahler, 1997). These concepts were deemed as important qualities that were derived from FFA leadership and personal development activities. Dormody and Seevers (1994) believed that students should join FFA and participate in leadership activities regardless of self-esteem, age, ethnicity or place of residence. Scanlon, Yoder, Hoover and Johnson (1989) examined the factors that impacted a student's decision to join FFA. Students listed the development of leadership and communication skills as the most common reasons for joining FFA.

The purpose of the SAE program, in conjunction with classroom instruction and FFA activities, is to develop skills, concepts and values needed to work in the agricultural industry (Rawls, 1982). Rawls found that parents perceive the benefits from SAE's were the positive development of work attitudes, occupational development, and human relation skills. Pals (1988) examined the value of supervised experience programs as perceived by students of agricultural education programs and found that students believed they benefited from SAE by, developing responsibility, developing interest in agriculture, learning to keep records, and making class subjects and content practical.

Purpose

The purpose of this study is to determine if home school providers are interested in providing agricultural education, FFA membership and supervised agricultural experience programs participation to home educated students. The following research questions were addressed:

1. What is the interest level of home school educators towards agricultural related course subjects, and what potential resources would be needed for instruction?
2. What is the interest of home school educators in student participation in a Supervised Agricultural Experience program, and what potential resources would be needed?
3. What is the interest of home school educators in National FFA Organization membership and participation for their students?
4. Are the interests of home school educators in providing the agricultural courses different, based upon the school being located within a rural, suburban, or urban environment?

Methods/Procedures

The research methodology used in this study is an example of descriptive research. Gall, Borg & Gall (1996) describe this type of inquiry as, "a type of research that measures the

characteristics of a sample or population on pre-specified variables.” Through survey research methods, home school providers in nine counties throughout North Carolina were contacted. Because so little is known about the extent of home schooling in secondary school aged children in North Carolina, this study was undertaken as an exploratory study.

The population consisted of home school providers throughout North Carolina teaching students between the ages of 13-18. The population of home school providers is unknown however, it is estimated that 4,000 to 5,000 students between ages 13-18 are currently being educated at home. The sample consisted of home school providers in western, central and eastern North Carolina counties in order to represent the geographic diversity of the state. The sample was also chosen to incorporate home school providers within rural, urban and suburban counties. Proportional sampling was used for determining the sample size of home school providers within nine counties throughout the state. The sample size was 500 home school providers. According to sampling formulas provided by Cochran (1977), this should provide an adequate sample size for an unknown population. The sample was selected from a rural, suburban, and urban county in the western, central, and eastern part of the state.

A questionnaire was developed by the researcher to identify the interest of home school providers in offering agricultural education and the resources needed for instruction and full participation in the agricultural education program. Content validity was assessed by a panel consisting of agricultural education faculty at North Carolina State University, the State Agricultural Education Coordinator, and the State FFA Coordinator. Reliability of the scaled items was assessed from data obtained in a pilot test of the instrument. The coefficient of internal consistency was $\alpha = .74$. The first section of the questionnaire addressed the age level of the home school student and population demographics of the location of the school. If home school providers indicated that the school taught students in the age level of 13 – 14, or age level of 15 or higher, all sections of the questionnaire were relevant to the inquiry. If the respondent did not teach a child at least 13 years of age, they were instructed not to complete the questionnaire and simply return it to the researcher.

The next section evaluated the interests of home school providers towards agricultural education. Respondents were asked if adequate resources and materials were available to home school providers, would they teach agricultural courses in their home school. Participants indicated interest by responding “yes”, “no” or “perhaps.” After the completion of this portion of the questionnaire, those respondents who indicated “no” were instructed to complete a section of the instrument that served to identify reasons that they were not interested in teaching agricultural courses. If the participants indicated an interest in teaching agricultural courses or indicated “perhaps” interested, those parents, using a Likert-scale, identified agricultural content areas they would be interested in teaching. Content areas included agriscience, agricultural production and management, animal science, biotechnology, environmental and natural resources, and horticulture. Using a Likert-type scale, home school providers addressed the types of resources needed to successfully teach agriculture.

Respondents also were also asked to indicate their interest in providing FFA membership to their students by choosing, “yes”, “no”, or “perhaps.” Participants who indicated “yes” or

“perhaps” evaluated various FFA activities, career development events, and personal development opportunities.

Interest in supervised agricultural experience programs and those resources needed for home school educators to effectively provide a SAE program was evaluated in the next section. Respondents were asked to indicate their interest in providing supervised agricultural experience programs to their students. Response choices were, again, “yes”, “no”, or “perhaps.” Using the scale of 0-3, home school providers indicated their interest in providing SAE programs for their students. Items included in this section described the major SAE areas. The final section of the questionnaire asked providers to evaluate the resources that would be needed to effectively incorporate supervised agricultural experience programs within the home school.

A total of 187 responses were received after two mailings of the questionnaire to the target population. This represented a response rate of 37.4%. While this response rate is relatively low, it is considered very acceptable for market research to a general population. To control for potential nonresponse error, data from early and late respondents were compared (Miller and Smith, 1983). No significant differences were found between early and late respondents for the major variables in the study.

Descriptive statistics including frequencies and percentages were used to assess the interest of home school providers in offering agricultural education, National FFA Organization activities, and supervised agricultural experience opportunities. In order to determine difference levels of interest of home school providers based upon location (rural, urban, suburban), analyses of variance techniques were used with a Fisher’s LSD post hoc test.

Results

In determining the interest levels of home school providers toward agricultural education, the study first addressed the age level of the children being taught at the home school. Home school providers indicated the age of their students in one of three categories. The categories were: ages 5-12, ages 13-14, or ages 15 and older. Slightly over half (51%) of all respondents indicated they were teaching students in the age demographic eligible for secondary agricultural education in the public school system.

When asked to evaluate interest of teaching agricultural courses, “yes”, “no,” and “perhaps,” statements were used. While 23% of respondents indicated “no,” they were not interested in teaching agricultural courses, 77% of respondents indicated some level of interest in teaching agricultural courses. Those respondents who indicated “no” to the question of interest in teaching agriculture were asked to complete a section which contained items to evaluate why agricultural courses would not be of interest. Nearly 78% of those respondents who responded “no” indicated that their student had no interest in agriculture. Over 60% of the respondents selected the statement that they did not have the skills or knowledge to teach agriculture.

Assessing the types of courses that home school providers would offer was also evaluated using the following Likert-scale: 0 = no opinion, 1 = disinterested, 2 = perhaps interested, 3 = highly interested. As shown in Table 1, home school providers reported the most interest in the

horticulture course (\underline{M} = 2.75). Almost 75% of the respondents who were interested in agriculture courses indicated a high interest in horticulture courses. Mean scores also indicated that animal science (\underline{M} = 2.52) and environmental and natural resources studies (\underline{M} =2.50) were also appealing to home educators (see Table 1). Over half of the respondents reported a high interest in offering these agriculture courses to home school students.

Table 1

Interest Levels of Home School Providers Towards Agricultural Courses

Agricultural Course	<u>M</u>	<u>SD</u>
Horticulture	2.75	0.42
Animal Science	2.52	0.59
Environmental and Natural Resources	2.50	0.63
Agricultural Production & Management	2.38	0.58
Biotechnology	2.31	0.74
Agriscience Applications	2.16	0.61

Note. 0 = no opinion; 1= disinterested; 2= perhaps interested; 3= highly interested

Home school educators were asked to identify resources that would be beneficial in teaching agriculture. Data are presented in Table 2. Again using a 0 – 3 Likert scale, school providers indicated that a textbook and student workbook would be useful for home schools (\underline{M} = 2.7). Nearly seventy-three percent of respondents indicated that a textbook and student workbook would be “very important or needed in teaching agriculture.” Also listed as important by over 60% of the respondents were the availability of a resource person in agricultural education and the use of laboratory facilities and/or greenhouses. Only 35% of the respondents felt on-line courses in agriculture were important resources needed to provide agricultural education to home school students.

Table 2

Possible Teaching Resources in Agricultural Education by Home School Providers

Teaching Resource	<u>M</u>	<u>SD</u>
Textbook and student workbook	2.70	0.52
Resource person in agricultural education	2.60	0.52
Use of laboratory facilities and greenhouses	2.59	0.52
Resources from NCSU and NC A&T	2.52	0.60
Instructional packets including videos	2.40	0.64
CD-Rom with learning activities	2.30	0.70
Training on how to teach agriculture	2.31	0.60
On-line agricultural course	2.26	0.62
Course blueprints	2.23	0.74
Test banks for each subject	2.11	0.84

Note. 1 = would not be important or needed to teach agriculture; 2 = would be of somewhat importance or somewhat needed; 3 = would be very important or needed.

An evaluation of interest in FFA membership and participation was also studied. Participants were asked, “Would your home school student(s) be interested in FFA membership and participating in FFA activities and events?” Respondents were given the following choices: “yes,” “no,” or “perhaps.” A majority of respondents (60.3%) indicated “perhaps.” There were 27.4% who indicated “yes,” the student(s) at their home school would be interested in the National FFA Organization, and 12.3% did not believe that their student(s) would be interested in FFA activities.

Those respondents who indicated “yes” or “perhaps” were asked to evaluate FFA activities again using the 0-3 scale (Table 3). Horticulture or plant science contest was identified using mean scores ($M = 2.12$) as one FFA activity that may be of interest to home school students. This is consistent with the interest in offering horticulture courses. While only 30% of the respondents reported they were “very interested” in plant science and horticulture contests, another 39% expressed some interest in these activities. Home school providers did not express high levels of interest in FFA leadership activities such as attending FFA conventions (6.8%), parliamentary procedure contests (3.7%), or having their student serve as an FFA officer (2.7%).

Table 3

Interest in FFA Activities by Home School Providers

FFA Activities	<u>M</u>	<u>SD</u>
Plant science/horticulture contests	2.12	0.74
Livestock judging contest	1.89	0.79
Summer recreational camp	1.89	0.71
Agriscience fairs	1.88	0.73
International travel	1.83	0.84
Public Speaking contest	1.80	0.82
Student leadership conferences	1.71	0.75
National FFA Convention	1.57	0.64
Parliamentary procedure contests	1.42	0.69
Serving as a FFA officer	1.32	0.57

Note. 0 = need more information about this activity; 1 = not interested in this FFA activity; 2 = perhaps interested in this FFA activity; 3 = very interested in this FFA activity

The third component of this study addressed the interest level of home school providers towards supervised agricultural experience programs. Participants were asked if their student would be interested in the SAE program and respondent with “yes,” “no,” and “perhaps,” statements. Of the respondents, 49.3% indicated “yes” they were interested in supervised agricultural experience. An additional 47% indicated they were perhaps interested and 4% did not express interest in SAE’s.

Respondents evaluated six major types of SAE programs using the 0 –3 scale (see Table 4). Mean scores indicated that supervised agricultural experience placement programs were most appealing ($M = 2.41$). Nearly 50% of respondents indicated that placement programs were the types of SAE’s that were of most interest. In addition, 44.4% indicated high levels of interest

in providing experimental SAE programs for their students. Only 17.6% of the respondents were interested in entrepreneurial (ownership) SAE programs.

Table 4

Means and Standard Deviations of Items for the Evaluation of Interest in Supervised Agricultural Experience Programs

Type of SAE Program	<u>M</u>	<u>SD</u>
Placement programs	2.41	0.67
Agricultural experiments	2.37	0.66
Job shadowing	2.28	0.66
Analytical programs	2.27	0.63
Home/community improvement	2.02	0.70
Entrepreneurial programs	2.01	0.65

Note. 0 = need more information about this SAE activity; 1 = not interested in this SAE activity; 2 = perhaps interested in this SAE activity; 3 = very interested

Home school providers also indicated the type of resources they believed would be useful for the inclusion of SAE in the home school (see Table 5). Mean scores indicate that a resource person in agricultural education, used to answer questions about supervised agricultural experience programs, would be the most useful (M = 2.72). Over 68% of home school educators indicated the importance of having a resource person for SAE implementation. Workshops were also seen as very useful by 53.4% of the respondents, followed by on-line SAE resources (46.8%) and information on recognition programs in FFA (45.2%).

Table 5

Mean Scores and Standard Deviations for Items Evaluating SAE Resources

Item	<u>M</u>	<u>SD</u>
Resource person	2.72	0.49
Training workshop and conferences	2.51	0.61
On-line resources	2.45	0.64
Information on job shadowing	2.40	0.66
Information on FFA recognition	2.38	0.70
Entrepreneurial activities and rules	2.35	0.70
Information on record keeping	2.29	0.65
Information on SAE's student benefits	2.25	0.73
Proficiency award workbooks	2.22	0.76
Agricultural placement rules and regulations	2.17	0.68

Note. 0 = not interested in SAE; 1 = not useful; 2 = somewhat useful; 3 = very useful

Does the interest of home school providers toward offering agricultural education depend upon the location of the home school? The final research question addresses this issue. Home

schools were identified as being located in a rural, suburban or urban area. Of the respondents, 40% were located in a rural area, 37% were located in a suburban area, and 23% in an urban area of the state.

To evaluate if a difference of interest was present based upon yes/no/perhaps response among respondents in rural, suburban, and urban home schools, a Kruskal-Wallis test was performed. The results indicated the following: Chi-square = 4.832, degrees of freedom = 2, and $p = 0.089$. The results indicated no significant difference of interest level among respondents, regardless of the home school being located in a rural, suburban, or urban environment.

An evaluation of standard deviations and mean were also used to identify differences in responses among home school providers in rural, suburban, and urban areas. This evaluation identified that the strongest reason that respondents did not want to teach agriculture is because of lack of student interest.

To determine if the interest level of home school providers is different depending upon location of the home school, mean scores and standard deviation of items describing agricultural courses were evaluated. Urban home school providers were most interested in horticulture courses ($\bar{M} = 2.73$), followed by biotechnology courses ($\bar{M} = 2.69$). Suburban home school providers were also most interested in providing horticulture courses ($\bar{M} = 2.62$), followed by animal science ($\bar{M} = 2.56$) and environmental science/natural resources ($\bar{M} = 2.54$). Home school providers in rural areas were also most interested in horticulture courses ($\bar{M} = 2.80$), followed by animal science ($\bar{M} = 2.56$) and agricultural production ($\bar{M} = 2.50$).

Analysis of variance was conducted to identify differences among respondents in rural, suburban, and urban environments. No difference was identified except in the biotechnology course. Urban respondents had a significantly higher interest in the biotechnology course than their rural or suburban counterparts ($F = 3.74$, $df = 69$, $p = .03$).

Conclusions/Recommendations

Due to the relatively low response rate, caution should be used when generalizing the results of this study. While the researchers attempted to control for nonresponse error, the results of this study should not be generalized beyond the respondents.

Home school educators in this study are interested in providing agricultural courses to students, but their interest level varies depending upon the agriculture course. Horticulture was found to be the course that seemed most appealing to home school providers. Textbooks were viewed as the most needed resource for teaching agriculture. The agricultural education profession should begin to inform home school providers about agricultural curriculum that can be used by home school students. Curriculum packages should be created that contains student textbooks, workbooks, teacher guides and other resources needed to teach specific agricultural courses.

Supervised agricultural experience programs are of interest to a majority of home school educators in this study. Home school providers indicate that a resource person in the agricultural education profession available to questions would be the most beneficial resource. The agricultural education profession should begin identify ways that home school providers could incorporate supervised agricultural experience programs in their school. Also, the agricultural education profession should develop training seminars and literature for home school providers.

Table 6

Mean Scores and Standard Deviations for Agricultural Courses Among Rural, Suburban, and Urban Respondents

Item	Location	<u>N</u>	<u>M</u>	<u>SD</u>
Agriscience	Rural	30	2.13	0.63
	Suburban	21	2.04	0.59
	Urban	14	2.15	0.50
Ag. Production and Management	Rural	31	2.50	0.68
	Suburban	21	2.30	0.46
	Urban	15	2.40	0.46
Animal Science	Rural	32	2.56	0.50
	Suburban	23	2.56	0.59
	Urban	16	2.44	0.73
Biotechnology	Rural	31	2.10	0.75
	Suburban	23	2.50	0.76
	Urban	16	2.69	0.73
Environmental Science & Natural Resources	Rural	32	2.43	0.67
	Suburban	24	2.54	0.66
	Urban	16	2.50	0.63
Horticulture	Rural	32	2.80	0.42
	Suburban	16	2.62	0.50
	Urban	16	2.73	0.40

Note. 0 = no opinion; 1 = disinterested; 2 = perhaps interested; 3 = highly interested

The home school providers in this study were interested in only some of the activities offered by FFA. Home school providers indicated an interest in horticultural/plant science career development events, but not in leadership activities. A majority of home school providers need more information about FFA membership and activities. The FFA organization should look at marketing itself as an organization available for home educated students. FFA should also look how to include these students within its membership and allowing for involvement in events and activities.

The interest level of home school providers towards teaching agriculture is not influenced by the home school being located in a rural, suburban, or urban environment. However, home school students should be studied to determine their interest level in agricultural courses, FFA membership and supervised agricultural experience in rural, suburban, and urban home schools.

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