© Journal of Agricultural Education
Volume 53, Number 3, pp 154–165
DOI: 10.5032/jae.2012.03154

Perceptions of Florida Secondary School Principals toward Agricultural Education

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In American public schools, the bulk of financial decisions have been left up to local boards of education, local school superintendents, and individual school principals. Traditionally, principals have been considered the utmost leader in their schools. Agricultural education has been linked to student achievement in a variety of ways. The National Council for Agricultural Education's Strategic Plan for Agricultural Education included a "call to increase the number of quality agricultural education programs" around the nation. Currently, there are no data on how Florida decision makers perceive agricultural education programs and how their perceptions align with the values of principals. Additionally, the relative lack of growth in FFA Chapters around the country and in Florida is concerning. The purpose of this study was to determine the perceptions of secondary agricultural education programs held by Florida secondary school principals. The results of this study found that Florida secondary school principals have positive perceptions of agricultural education programs. Additionally, the presence of a local secondary agricultural education program influences the perceptions of Florida secondary school principals. Demographics had many influences on the perceptions of Florida secondary school principals. A key finding was the influence of student achievement on funding decisions of principals.

Keywords: secondary agricultural education, principals, decision makers, perceptions

Introduction

The majority of financial decisions have been left up to local boards of education, local school superintendents, and individual school principals (A Guide to Decision–Making in Schools, 2010; Structure of U.S. Education, 2008). Principals have been considered the utmost leader in their schools (Hallinger, 1992). Literature revealed that when "educators, researchers, communities, and politicians are interested in improving" (p. 56) schools, they look to the principal as a "critical force in creating and maintaining strong schools" (Voorhis & Sheldon, 2004, p. 56). Overall and continuous school improvement has been a pressure that has been put upon all principals, and making funding decisions that align with student learning has been the goal of principals (School Finance Redesign Project, 2008). Principals have felt the challenge to comply with increasingly stringent state and federal policies and reforms and have been forced to make hard decisions at times (Portin, Shen, & Williams, 1998). Portin et al. stated that because of increased budget cuts, 62% of principals "indicated they devoted increasing amounts of time seeking grants from external sources" (p. 4). As leaders in schools, principals have been charged with focusing their staff on improving student achievement (Hallinger, 1992).

Agricultural education has been linked to student achievement in a variety of ways, including the way in which the curriculum has been administered, through Supervised Agricultural Experience (SAE) programs, and student involvement in the National FFA Organization (Cheek, Arrington, Carter, & Randell, 1994). Agricultural education has also been said to boost understanding of science because of the applied, hands on nature of instruction (Dyer & Osborne, 1999).

The National Research Council (1988) stated, "Agriculture is too important a topic to be taught only to the relatively small percentage of students" (p. 8) who are being taught at this time. The problem being investigated in this study was the lack of data on how Florida decision makers perceive agricultural education programs and how their perceptions align with the values of principals. Additionally, the relatively stagnant growth or decline in FFA Chapters around the country and in Florida is concerning. Nationally, there are 7,487 schools with FFA Chapters or only a net increase of 175 additional chapters since 2000 (National FFA Organization, 2011). However, this number leaves 30,743 schools – 80% of all schools – around the nation without agricultural education programs (National Council for Agricultural Education, 2007). In Florida, there has been a decline in the number of FFA Chapters from 2000 to 2010; In 2000, there were 324 FFA Chapters, in 2005 there were 330 FFA Chapter, and in 2010 there were 286 FFA Chapters in Florida (Simmons, R. personal communication, January 25, 2011). As budget cuts continue to affect education across the board (Lav & Hudgins, 2008; Portin, Shen, & Williams, 1998), now is a critical time to generate and maintain support for agricultural education programs. Recently, various agricultural education programs across the country have experienced major cuts, forcing some programs to make major changes and face potential closures (Grimes, 2010; McCarthy, 2010; Martin, 2010). With economic struggles being at the forefront of current issues, it is essential that agricultural education programs in Florida ensure their support systems.

Theoretical Framework

This study was grounded on Fishbein and Ajzen's (1975) Theory of Reasoned Action which suggested that a person's behavior can be predicted by evaluating their beliefs and attitudes toward a program, subject, or another behavior (Fishbein & Ajzen, 1975). Fishbein and Ajzen stated that the attitude individuals have toward the behavior or subjective norms determines their intention to carry out the behavior, and this leads to either action or inaction of the behavior.

Past studies on perceptions of administrators regarding agricultural education have revealed a fairly positive view of agricultural education (Jewell, 1989; Johnson & Newman, 1993; Kalme & Dyer, 2000; Pavelock, Ullrich, Hanagriff, & Baer, 2003; Pavelock, Vaughn, & Kieth, 2001; Price, 1990). However, no such studies have been conducted in Florida. Other studies have ascertained perceptions of school administrators toward vocational education. In these past studies, vocational education was perceived to be a positive program in public schools (Huh, 1991; Barnett, 1984; Miller, 1981).

Purpose and Objectives

The purpose of the study was to determine perceptions of secondary agricultural education programs held by Florida secondary school principals. The objectives of this study were to:

1. Determine the perceptions of Florida public secondary school principals toward secondary agricultural education programs.
2. Determine the influence of the presence of a local secondary agricultural education program on the perceptions of principals.
3. Examine the relationships between demographic characteristics and views toward secondary agricultural education programs as reported by principals.
4. Identify the factors that Florida principals take into consideration when making program funding decisions.

Methods

This quantitative study used a descriptive survey design. Both web–based and mailed questionnaires were distributed to determine perceptions. Threats to internal validity were addressed. History was addressed by documenting any significant occurrences during the duration of the study. Selection was addressed by choosing a simple random sample of the principals in Florida. Statistical regression was addressed by having no pretest or posttest. Attrition and maturation were addressed by having only one questionnaire and data collection only lasted a short amount of time. Instrumentation was addressed by giving identical questionnaires to all participants.

Experimenter effects were addressed by only having one questionnaire and were coded in a uniform manner to remove any bias. Subject effects were addressed by assigning each questionnaire and respondent a respondent number so that anonymity could be established to reduce the effects of social desirability. Non–response error was addressed by comparing early and late respondents on both the online form and the paper form of the questionnaire, as well as comparing the online answers to the paper answers. No significant differences were found between early and late respondents in the principal questionnaires. A simple random sample of principals in the state of Florida was taken. The sample size of the principals selected followed the guidelines presented by Israel (2009). The formula $n = N/ 1+ N(e)^2$, where n = sample size, N = sampling frame or population, and e = desired precision was used (Israel, 2009). There were 354 eligible schools for testing. Therefore, 184 principals were surveyed ($n = 354/1+354[.05]^2$) using a confidence level of 95% or .05 alpha. The population frame for this group was obtained from the Florida Department of Education.

The instrument being used was designed by Kalme and Dyer (2000) and was determined to be valid and reliable by the developers. Some questions were modified and/or deleted to fit the needs of principals being surveyed. The edited instrument was pilot tested using 30 principals and superintendents from the State of Florida to determine design validity and reliability. Face and content validity were assessed utilizing a panel of experts in the Department of Agricultural Education and Communication at the University of Florida. The instrument was deemed valid by this expert panel. Participants were asked to designate the degree to which they agreed or disagreed with each statement using a Likert–type scale (1 = strongly disagree – 5 = strongly agree or 6 = No Opinion). Four constructs were used to measure perceptions of agricultural education programs. "Student Benefits" measured to what extent principals agreed or disagreed that agricultural education programs benefited students. "Community" measured to what extent principals agreed or disagreed that agricultural education programs were important in their communities. "Courses" measured to what extent principals agreed or disagreed that agricultural education courses were of high quality. And, "Teachers" measured to what extent principals agreed or disagreed that agricultural education teachers were of high quality. Principals were also asked to answer demographic questions. Additionally, one open–ended question was asked ascertaining the factors that principals consider when making program funding decisions.

Reliability was determined for each construct using Cronbach's alpha. All constructs were deemed reliable. ANOVAs were calculated to compare the perceptions of principals with and without agricultural education programs and compare demographic characteristics in reference to perceptions of agricultural education programs with an *a priori* level of significance set at $p<0.05$. Means were described using the following scale: 1.0–1.49 = low or negative perceptions, 1.5–3.49 = medium or neutral perceptions and 3.5–5.0 = high or positive perceptions. SPSS® version 17.0 for Windows® software package was used to analyze the data.

In order to attain the objectives of this study, questionnaires were sent to 184 principals in the State of Florida. Eight principals opted to not participate in the study decreasing the sample size to 176. A total *n* of 71 complete responses were analyzed for data collection. The total response rate was 40.34%.

Findings

Objective 1: Determine the perceptions of Florida public school principals toward secondary agricultural education programs.

Overall, principals had positive perceptions of agricultural education (see Table 1).

Table 1
Principal's Means and Standard Deviations of Perceptions of Agricultural Education

Construct	*n*	*M*	*SD*
Student Benefits	69	3.99	.59
Community	70	3.85	.65
Courses	69	3.83	.54
Teachers	63	4.08	.63

Note: Differences in *n* due to respondents selecting not to complete this section of the instrument or respondents designating "No Opinion" which was removed for data analysis.

Objective 2: Determine the influence of the presence of a local secondary agricultural education program on the perceptions of principals.

An ANOVA was calculated to compare the perceptions of principals with and without agricultural education programs and to determine the influence of the presence of a local secondary agricultural education program on the perceptions of principals. All constructs demonstrated a significant difference between the two groups of principals. A significance level of $p<.01$ was found on all four constructs (See Table 2).

Table 2
Summary of ANOVA Measures for Principals With and Without Agricultural Education Programs at Their School

Construct	*df*	*F*	*p*
Student Benefits	1	36.98	<.01
Community	1	44.66	<.01
Courses	1	26.23	<.01
Teachers	1	34.89	<.01

When analyzing the means of principals with and without a local agricultural education program at their school, all means were significantly higher for principals with agricultural education programs at their school (See Table 3). Differences in *f* can be explained by principals choosing to not answer some questions on the questionnaire.

Table 3
Summary of Means for Principals at Schools With and Without Agricultural Education Programs

	Ag Ed Program			No Ag Ed Program		
Construct	*f*	*M*	*SD*	*f*	*M*	*SD*
Student Benefits	42	4.26	.40	26	3.53	.58
Community	42	4.18	.54	27	3.34	.44
Courses	42	4.06	.43	26	3.49	.46
Teachers	42	4.35	.49	21	3.54	.53

Objective 3: Examine the relationships between demographic characteristics and views toward secondary agricultural education programs as reported by principals.

An ANOVA was conducted to compare the perceptions of principals based on the subject that they taught before becoming principals. Principals were grouped into three categories. The categories were composed of principals who had previously taught math or science, principals who had previously taught agricultural education, and principals who had previously taught other subjects such as English, Social Studies, and other subjects. Of the 71 responses, only 4.22% (n = 3) were former agricultural educators, 29.57% (n = 21) were former science

or math teachers, and 45.07% (n = 32) were categorized as other. A significant difference was found between the three groups on the *Community* construct (See Table 4).

Table 4
Summary of ANOVA Measures for the Subjects Taught by Principals Prior to Going into Administration

Construct	*df*	*F*	*p*
Student Benefits	2	0.96	.39
Community	2	3.99	.02
Courses	2	2.34	.10
Teachers	2	2.76	.07

Additionally, differences in means were observed between the three groups of principals. Overall, the principals who were former agricultural educators had the highest mean score for all four constructs. Science and math teachers had the second highest mean score for the three categories with mean scores that demonstrated positive regard for agricultural education programs. Principals who taught other subjects ranked all four constructs lower than any other group (See Table 5).

Table 5
Summary of Means for the Subjects Taught by Principals Prior to Going into Administration

	Math or Science			Agriculture			Other		
Construct	*f*	*M*	*SD*	*f*	*M*	*SD*	*f*	*M*	*SD*
Student Benefits	21	4.09	.56	3	4.41	.59	31	3.99	.49
Community	21	4.10	.63	3	4.40	.52	32	3.68	.61
Courses	21	3.93	.51	3	4.41	.52	31	3.80	.45
Teachers	20	4.31	.49	3	4.53	.41	28	3.96	.64

An ANOVA was calculated to compare the perceptions of principals in reference to the racial breakdown of the principal's school as reported by the principal. Schools were categorized as having 25% or less white population (n = 4), 26–50% white population (n = 15), 51–75% white population (n = 15), or 76–100% white population (n = 20). A significant difference was found on the "Courses" construct (See Table 6).

Table 6
Summary of ANOVA Measures for Principal Perceptions Based on the Racial Breakdown of the School

Construct	*df*	*F*	*p*
Student Benefits	3	2.16	.10
Community	3	0.77	.51
Courses	3	2.94	.04
Teachers	3	0.84	.47

The principals with the schools that had the highest percentage of minorities had the lowest mean scores for the construct *Courses*. However, this trend was not consistent as the percentage of minorities decreased through the categories. The group with the highest perceptions of the quality of agricultural education courses was the group with 51–75% white population (See Table 7).

Table 7
Summary of Means for Principal Perceptions Based on the Racial Breakdown of the School

	≤ 25% white			26–50% white			51–75% white			76–100% white		
Construct	*f*	*M*	*SD*	*f*	*M*	*SD*	*f*	*M*	*SD*	*f*	*M*	*SD*
Student Benefits	4	3.36	.35	15	3.94	.63	15	4.09	.58	20	4.01	.36
Community	4	3.38	.47	15	3.75	.69	15	3.91	.76	20	3.85	.53
Courses	4	3.50	.10	15	3.76	.52	15	4.08	.47	20	3.68	.44
Teachers	4	3.63	.60	15	4.00	.68	15	4.17	.77	20	4.08	.36

An ANOVA was calculated to compare the perceptions of principals who had been at a school where a new agricultural education program had been started during their tenure as principals. A total of 13.0% (n = 9) principals had been at a school where an agricultural education program had been started. Significant differences were found for all four constructs (see Table 8).

Table 8
Summary of ANOVA Measures for Principals Who Had and Had Not Been at a School Where a New Agricultural Education Program Was Started

Construct	*df*	*F*	*p*
Student Benefits	1	6.08	.01
Community	1	12.96	<.01
Courses	1	7.46	<.01
Teachers	1	6.95	.01

For all four constructs, principals who had been at a school where a new agricultural education program had been started had statistically significant higher mean scores. (See Table 9).

Table 9
Summary of Means for Principals Who Had and Had Not Been at a School Where a New Agricultural Education Program was Started

	New Ag Ed Program Started			No Ag Ed Program Started		
Construct	*f*	*M*	*SD*	*f*	*M*	*SD*
Student Benefits	9	4.43	.31	59	3.92	.60
Community	9	4.53	.41	60	3.75	.62
Courses	9	4.27	.39	59	3.78	.51
Teachers	9	4.57	.36	54	4.00	.63

An ANOVA was calculated to compare the perceptions of principals based on the geographic region that the school was located in as designated by the principal. Schools were categorized into the following groups: urban (n=15), suburban (n=15), town (n=12), and rural (n=26). Significant differences were found between the groups "Student Benefits," "Courses," and "Teachers" (Table 10).

Table 10
Summary of ANOVA Measures for Perceptions of Principals Based on the Geographic Region of the School

Construct	*df*	*F*	*p*
Student Benefits	1	6.36	<.01
Community	1	1.38	.25
Courses	1	4.42	<.01
Teachers	1	2.95	.04

In all four constructs, principals of rural schools had higher mean scores than any other group of principals in reference to the geographic location of the school. Additionally, principals of schools in urban areas consistently had the lowest mean scores on all four constructs of any other group in reference to the geographic location of the school (Table 11).

Table 11
Summary of Means for Perceptions of Principals Based on the Geographic Region of the School

	Urban			Suburban			Town			Rural		
Construct	*f*	*M*	*SD*	*f*	*M*	*SD*	*f*	*M*	*SD*	*f*	*M*	*SD*
Student Benefits	15	3.47	.60	15	4.14	.59	12	3.98	.68	26	4.19	.35
Community	15	3.65	.52	16	3.80	.71	12	3.78	.75	26	4.05	.61
Courses	15	3.47	.55	15	3.87	.44	12	3.83	.57	26	4.05	.43
Teachers	13	3.81	.64	13	3.93	.76	11	3.94	.69	23	4.35	.44

Objective 4: Identify the factors that Florida principals take into consideration when making program funding decisions.

Five overall themes were found that explained how principals make decisions regarding funding of programs. Principals indicated that they take the following items into consideration when making program funding decisions: student achievement, student interest, funding available, state and federal mandates, and local needs and community interest. Student achievement was overwhelmingly the most commonly mentioned and was most often the first or only item listed.

Conclusions

Florida principals hold positive perceptions of agricultural education programs. Florida principals agreed that agricultural education programs were beneficial for students, the courses were of high quality, the agricultural educators were of high quality, and that agricultural education programs are important to the community. This matches the results of Kalme and Dyer's (2000) study that found that Iowa principals held positive perceptions of agricultural education programs, courses, and teachers.

The presence of a local secondary agricultural education program influences the perceptions of Florida secondary school principals. Principals in schools with agricultural education programs had more positive perceptions of the student benefits of agricultural education programs, the quality of the courses, the quality of the agricultural educators, and the importance of agricultural education programs to the community. One could conclude that the principal's perceptions influence whether or not an agricultural education program exists at a school.

The subject that was previously taught influenced principals' perceptions of agricultural education programs. Principals who were former agricultural educators had the highest regard for agricultural education programs, followed by science and math teachers, and principals who taught other subjects. However, all groups had positive perceptions of agricultural education programs. This corresponded with the findings of Barnett's

study (1984) that found that principals who had taught in vocational areas held more positive perceptions of vocational education. Additionally, this study matched the results of Pavelock, Ullrich, Hanagriff, and Baer (2003) which found that regardless of their area of teaching when teaching high school, Texas superintendents perceived agricultural education positively.

The racial breakdown of a school influenced the principal's perceptions of agricultural education courses. Principals of schools who had 25% or less white population had the lowest perceptions of agricultural education programs. However, this finding should be analyzed with caution because there was only an *n* of four for principals with 25% or less white population. However, this group only had moderately positive views of agricultural education programs.

Principals who had been at a school where a new agricultural education program had been started had very positive perceptions of agricultural education programs. This study concludes that principals who had been at schools where new agricultural education programs have been started are more supportive of agricultural education programs.

The geographic region of the school influenced principals' perceptions of agricultural education programs. Principals of rural schools had higher mean scores than any other group of principals in reference to the geographic location of the school. This study had similar findings to Pavelock's (2000) study which indicated that superintendents from larger areas did not agree as strongly as superintendents in smaller schools, that agricultural education programs were useful in helping at–risk students stay interested in school.

Student achievement is the main concern of principals when making program funding decisions. This matches commentary from Jason Leahy of the Illinois Principal Association, which stated that the programs that support student achievement are the programs that are maintained.

Recommendations

Because principals reported that their number one funding concern was student achievement, when promoting agricultural education programs, agricultural educators should focus on the specific aspects of the program that enhance student achievement. Since other researchers (Kalme & Dyer, 2000; Pavelock, Ullrich, Hanagriff, & Baer, 2003; Pavelock, Vaughn, & Kieth, 2001) have concluded that administrators have positive perceptions of agricultural education programs, agricultural educators should continue to promote the positive benefits of agricultural education to students. If administrators continue to have positive perceptions of agricultural education, then agricultural education should have a place in public education for years to come. However, agricultural educators have long focused on what they perceive to be the student benefits of their programs. Administrators had a clear voice when stating the factors that they considered when making decisions, and student achievement was the number one theme. Agricultural educators should focus on specific aspects of their programs that enhance student achievement. Ricketts, Duncan, and Peake (2006) found that students who took agricultural education classes scored higher on the science portion of the Georgia High School Graduation Test. If agricultural education can help students score higher on State mandated tests, student achievement is enhanced, placing agricultural education in a positive position with administrators.

Materials should be created that focus on student achievement in agricultural education. Agricultural educators should focus on the aspects of student benefits that boost student achievement when promoting programs. Short, yet concise, information regarding the reinforcement of academic material which boosts student test scores should be emphasized when promoting programs. Additionally, practical and applied understanding of scientific and math concepts should be advertised as boosting student achievement when promoting programs. Only after principals can see the clear link between agricultural education programs and student achievement should the profession advertise all the other student benefits of agricultural education programs such as leadership skill development and scholarships. Additionally, the profession should determine ways to increase administrator involvement in agricultural education programs. Inviting

administrators to agricultural education program functions, asking them to be guest judges for a local agriscience fair, and letting administrators know what is going on in the program is move in a positive direction. However, agricultural educators should reach out further to administrators to allow them to become more involved in agricultural education programs.

Agricultural educators and state agricultural education staff should promote the aspects of agricultural education programs that specifically enhance student achievement, as well as the quality of agricultural education programs to principals who do not currently have agricultural education programs at their schools. Specific materials should be created to point out the aspects of agricultural education programs that enhance student achievement. Model programs could be displayed to principals who are not familiar with agricultural education programs or have had a negative experience with agricultural education programs. If perceptions of principals can influence the existence of agricultural education programs, then serious effort should be placed in promoting more positive perceptions of agricultural education programs to principals who do not currently have programs at their schools. Representatives from model programs could attend conferences that are frequented by principals so that these principals can see evidence of the benefits of agricultural education to students. Tremendous outreach through targeted high power marketing tools should be utilized in this area for growth of agricultural education programs nationwide and particularly in Florida.

Materials highlighting the specific aspects of agricultural education programs that enhance student achievement, specifically in the reinforcement of academic concepts, should be created and distributed to other teachers in the school who may become principals one day. Since principals generally come from the pool of teachers at a school, agricultural educators should make sure that other teachers at their school are aware of the quality of their programs, particularly how academic concepts are reinforced in the agricultural education classroom. This could be accomplished through teacher collaboration especially in academic subjects that would. Additionally, these materials should cover the standards that are addresses in agricultural education that correlate the standards for academic areas to demonstrate the cohesive nature of agricultural education curriculum and academic curriculum. Research that points out that students involved in agricultural education courses score higher on state tests should also be broadcasted to academic teachers. Listing specific subject areas in which agricultural education can provide hands on and applied knowledge to academic subjects should be demonstrated to teachers in academic areas to prove that agricultural education can provide a more meaningful understanding of academic concepts.

The profession should also work to prepare agricultural educators for leadership positions as administrators. Of the 71 responses, only 4.22% (n = 3) were former agricultural educators. For continued support of agricultural education programs, more agricultural educators should consider going into administrative roles. It would be of value to have the experience of a former agricultural educator at the table when making decisions. This could be provided through workshops at local, state, and national meetings.

A unified voice stating the total program of agricultural education promotes student achievement is necessary to enhance support of agricultural education programs. A new conversation should be started in the profession to really demonstrate how student achievement is enhanced through agricultural education programs. If the profession begins to refocus its marketing strategies on the basis of student achievement, will perceptions of agricultural education programs become more positive?

Further Research

A more in depth analysis as to why principals without agricultural education programs at their school had much lower perceptions of agricultural education programs should be conducted. A qualitative study regarding principal's true perceptions with a quantitative follow–up based on the findings from principals would be an interesting addition to this data set. It would be interesting to understand if principals without agricultural education programs simply do not have much experience with agricultural education or if they have had a bad experience in the past with agricultural education programs.

A study analyzing message framing of the promotion of agricultural education should be conducted. Administrator's number one concern is student achievement. If the message of agricultural education becomes one of promoting student achievement, will perceptions of agricultural education programs improve?

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