

# FACTORS INFLUENCING AN AGRICULTURAL EDUCATION STUDENT'S PERCEPTION OF THE FFA ORGANIZATION

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## Abstract

*The FFA is a learning tool that both enhances and supplements instruction. While agricultural education prepares students for careers, the FFA prepares students for a broad range of community interests. This systematic program of leadership, personal growth, and career success is the essential purpose of this student organization. The purpose of this study was to determine if there is a difference between FFA members and non-members as to their perception of the overall image of the FFA, and to determine if students' perceptions of the image of the FFA are influenced by social and demographic characteristics.*

*Data were collected using a questionnaire administered to 404 students enrolled in the Agriscience Applications course in 27 high schools in North Carolina. It can be concluded that: A student's decision to join or not join the FFA is influenced by their perception of the image of FFA in their school. Students tend to join and participate in the FFA based upon the organization's ability to meet a student's need for a sense of belonging. Based upon the responses of members, the social aspects of the organization were motivating factors in their desire to be members.*

## Introduction

The National FFA Organization spends more than \$7 million dollars annually to maintain existing programs and develop new programs for its membership (National FFA Foundation, 1997). In North Carolina, the state FFA association spends more than three hundred thousand dollars each year on career development events and leadership programs. An effort is made each year to create a service-oriented FFA organization in North Carolina. After three years of concerted effort from 1995 to 1998 to recruit new members by improving services, total membership did not increase. In 1998, approximately 16,000 agricultural education students said "no" to the activities, programs, and services of the North Carolina FFA Association (NCDPI, 1995).

The image of the FFA is defined as the mental picture that forms when certain characteristics about the FFA are brought to one's attention. This image can be either positive or negative and can be based upon known facts or supposition (The American Heritage College Dictionary, 1993). The value of any member-based organization

resides essentially in the minds of its members. Part of the value can be traced to tangible items such as a magazine subscription or a leadership manual while the remainder of the value of membership is found in intangible things such as sense of belonging or a feeling of pride by association with the organization (Sirkin and McDermott, 1995). If the organization has a positive image and provides members with a sense that their lives are more satisfying as a result of the association with the organization, then membership recruitment and retention is significantly easier (Sirkin and McDermott, 1995). The question arises as to whether agricultural education students have a positive perception of the FFA organization. Furthermore, are there social and demographic factors that are influencing a student's perception of the FFA's image?

Maslow introduced the concept of self-actualization in his book, *Motivation and Personality*. Maslow believed that the human individual is an integrated organism. It is impossible to separate the various components of a person's self. When an individual experiences hunger, it is their

whole self that is hungry and not just selected physiological components. It is the whole person that has the desire for food, shelter and safety.

Maslow's theory rests upon the idea that an individual progresses through a series of stages during his or her lifetime. The stages are identified as physiological and safety needs, esteem needs, cognitive and aesthetic needs, and self-actualization. Even if all of the other needs are met, the individual will develop a sense of restlessness and discontentment unless he or she is accomplishing goals true to oneself (Maslow, 1970). Maslow suggested that an individual progresses through this hierarchy in the order described. However, the order may be rearranged as a result of an individual's experiences (Weiten, 1989). Maslow's Hierarchy is relevant to this study in that it offers a basis for understanding potential reasons why students join and participate in youth organizations. If students are motivated by a sense of belonging, a desire for status, and a need to feel important, then this theory may explain why students tend to join and participate in the FFA organization.

In a study of 1,121 rural and urban high school students in Indiana and Michigan, Frick, Birkenholz, Gardner, and Machtmes (1995) found that students held a positive view of agriculture, even though they were not members of the FFA.

Scanlon, Yoder, Hoover, and Johnson (1989) found that the top recruiting practices perceived to be most effective by teachers were participation in career development events, FFA activities, and awards programs. Personal contacts between prospective and current students, and recruitment presentations to eighth graders were perceived by teachers as valuable recruiting tools. Scanlon, Yoder, Hoover, and Johnson (1989) also found that eleventh grade FFA members attributed their decision to join FFA to the development of leadership skills, the variety of local and state youth activities, and the communication skills developed through FFA activities. Among eleventh grade students who were not FFA members, the most common perceptions were that FFA activities were not interesting, take too much

time out of school, and interfere with other activities. The non-members also believed that they do not fit in with the farmer-type image projected by their high school agricultural education program.

Sutphin and Newsom-Stewart (1995) found that students held an overall perception that activity-centered learning, opportunities for work experience, and teamwork and life skills were good reasons for enrolling in agricultural education courses. The study also found that no significant ethnic difference existed in the students' decisions to study agriculturally related courses with respect to preparation for jobs and higher education, social and development skills, peer pressure, enhancement of academic skills, and the activity-centered nature of agricultural education courses (Sutphin, Newsom-Stewart).

One major educational reform initiative is the implementation of block scheduling in high schools. In a study involving 142 agricultural education programs in North Carolina, Becton (1996) found that teachers believed that block scheduling has a deleterious effect on FFA member recruitment and retention. However, block scheduling was perceived to have little impact on classroom instruction or supervised agricultural experience. Communication between teachers and students not currently enrolled in agriculture classes was identified as a major problem. Wortman (1997) found that students who did not serve in official leadership positions in the local FFA chapter had no significant positive or negative perception regarding block scheduling and its impact on FFA activities. Students who did serve as FFA officers reported that block scheduling negatively influenced student participation in FFA activities.

Talbert and Larke (1995) found that minority students, especially minority females, were under-represented in agricultural education. Also, minority students had more negative perceptions about agriculture than non-minority students did. With regard to FFA participation, minority students have fewer role models. They reported that minority students saw

themselves as unlikely candidates for careers in the agriculture industry.

In North Carolina, the Latino population has risen significantly over the last eight years. The number of Latinos enrolled in North Carolina schools has risen an average of 285% in the last eight years. Three factors identified as critical challenges to involving Hispanic students in FFA activities were the lack of role models in agricultural education for Hispanic youth, the absence of FFA promotional and instructional materials prepared in the Spanish language, and the unavailability of agricultural education teachers who can speak Spanish fluently in order to communicate with students (Martinez, 1998).

### Purpose

The purpose of this study was to determine:

1. If there is a difference between FFA members and non-members enrolled in agricultural education as to their perception of the overall image of the FFA.
2. Are students' perceptions of the FFA's image influenced by gender, ethnicity, and FFA membership status?
3. Are students' perceptions of the FFA's image influenced by their ability to choose to enroll in agricultural education, prior enrollment and experience in an agriculture class, and FFA membership status?
4. Are students' perceptions of the FFA's image influenced by block scheduling and FFA membership status?
5. Is there a relationship between a student's grade level and their perceptions of the image of the FFA?
6. Is there a relationship between the number of clubs and formal athletic activities in which a student participates and their perceptions of the image of the FFA?

### Methods

The population for this study was first year students of agricultural education who were enrolled in the Agriscience

Applications course in North Carolina schools. This was the first opportunity that most students would have had to join the FFA organization. Four hundred and four students were selected for the study based upon the geographic region in which their school was located. Schools selected for this study all had FFA chapters and were categorized as having 33% or less FFA membership, 34-66% membership, or 67-99% membership. An equal number of schools were selected in each membership percentage category.

Because this is descriptive research, a questionnaire was developed based upon a series of FFA program characteristics. Participants were asked to respond by indicating their agreement with a series of 18 statements regarding the image of the FFA. The response choices and their numerical values are as follows: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1, and Do Not Know = 0. The midpoint of this scale was 2.5, and all mean scores above this number were interpreted to be in agreement with the item. All mean scores below 2.5 were considered to be in disagreement with the item and items with a mean score of 2.5 were interpreted to represent a neutral opinion.

The scaled items were derived from the objectives of the FFA Local Program Success Model (National FFA Organization, 1997a). The Local Program Success Model was created and developed by experts in agricultural education for the purpose of improving local agricultural education programs. The researcher's graduate advisory committee, as a panel of experts in agricultural education and FFA, identified additional items to be included in the survey instrument and modified some items derived from the Local Program Success Model. The instrument was field tested and yielded a Cronbach's Alpha score of 0.88 as a measure of internal consistency of the instrument.

The data were collected and tabulated using Microsoft Excel® and transferred to the Statistical Package for Social Sciences (SPSS) 8.0® for Windows®. The first procedure involved an analysis of descriptive statistics in order to have a clear profile of the sample. Descriptive statistics

were generated for gender, ethnicity, grade level, prior enrollment, enrollment choice, block schedule characteristics of the school, FFA membership status, and number of clubs in which survey respondents were members.

The next procedure involved an analysis of the first research question. A multivariate analysis was used to examine the 18 image items simultaneously. If differences were determined to exist between FFA member and non-member perceptions, one-way analyses of variance determined which items accounted for the overall differences. A multivariate analysis of variance test was performed to determine if students' perceptions of the FFA image were influenced by selected demographic and school characteristics as described in research questions two through four. For those multivariate analyses that yielded significant differences in the main effects of independent variables, a one-way analysis of variance was performed to pinpoint any significant differences.

Prior to any multivariate analyses, the dependent variables were compared using the Pearson Product Moment Correlation statistic to determine if a significant correlation existed between the scaled items on the survey instrument. Hotelling's Trace was the statistic used to determine the level of significance in each multivariate analysis. In addition, the Pearson Product Moment Correlation statistic was used to answer research question five by determining if a relationship existed between the grade level of students and the students' perception of the FFA image. The same correlational statistic was used for research question six by determining if a relationship existed between the number of clubs in which students were members and their perceptions of the FFA image.

### Results

The majority of study participants were males, constituting 76 % of the data sample. In all, there were 308 males and 96 females in the data sample. Females comprised 22.6 % of the members and 24.5 % of the non-members in the study. Of all participants in the study, 41.5 % indicated that they were FFA members and 58.5 % were non-

members. Two hundred ninety nine Caucasian students and 102 non-Caucasian students participated in the study. Because of the low numbers of certain ethnic groups in the sample population, all ethnic groups except Caucasian were combined for data analysis. Freshmen made up 51.7 % of the students in the survey while seniors were the fewest number of students in the sample, comprising only 5.7 % of the sample. With respect to club participation, 34% of respondents indicated that they were not members of any club or school organization and did not participate in any kind of extracurricular athletic sport. This constituted the largest number of responses in the sample. FFA members participated in clubs and athletic activities more often than non-members. Participants in the study were also asked to provide data regarding their choices in signing up for Agriscience Applications. The majority of students reported that they signed up for the class by their own free will and that this was their first agriculture class. Eighty-nine percent of the students in this study reported that their school was on a block schedule system.

A multivariate analysis was performed using as the dependent variables the items on the instrument designed to measure students' opinions of the FFA organization's image. The independent variable was FFA membership status. This analysis yielded a Hotelling's Trace value of 0.379 ( $p < .05$ ). Therefore, a significant difference existed between FFA members and non-members with regard to their opinions of the FFA organization's image. Table 1 represents the results of the analysis of data gathered from survey respondents as to their opinion of the overall image of the FFA.

FFA members reported higher mean scores than non-members for every image item. Both members and non-members agreed that the FFA is not just for those students who wish to become farmers. Members generated a mean score of 3.29 ( $SD=0.75$ ) and non-members generated a mean score of 3.12 ( $SD=0.71$ ) for this item. Members also rated highly the item that stated, "the FFA is for all students not just an elite few" ( $M=3.25$ ,  $SD=0.82$ ). Members indicated that they were familiar with the FFA prior to signing up for the agriculture

course ( $M=3.10$ ,  $SD=0.65$ ). The FFA members in the study indicated that they thought that the FFA was a “cool” organization and would join the FFA in future years if given the chance ( $M=3.13$ ,  $SD=0.66$ ). They also indicated that the FFA at their school had a great image ( $M=3.07$ ,  $SD=0.77$ ). FFA members had received a lot of information about the FFA ( $M=3.24$ ,  $SD=0.66$ ). Members indicated that the FFA advisor and their parents had encouraged them to join the FFA and that many of their friends were members of the FFA organization. The FFA advisor scored higher than parents or friends as recruiters for the FFA ( $M=3.14$ ,  $SD=0.77$ ).

FFA members in the study indicated that being in the FFA was cost effective, considering the amount of FFA activities available to them and the cost of participation in these activities ( $M=3.07$ ,  $SD=0.81$ ). FFA members indicated that participation in the FFA was worth at least the cost of the membership dues ( $M=3.21$ ,  $SD=0.77$ ). Overall, FFA members rated the FFA as an organization that had a positive influence on their social standing in school, that many of their friends are involved in the organization, and that FFA members are people who treat others with kindness and respect. FFA members did not entirely agree with all items regarding the FFA organization’s image. The members in the study indicated that they did not like the official FFA jacket ( $M=2.40$ ,  $SD=0.94$ ).

Non-members agreed that they knew about the FFA before signing up for the agriculture class ( $M=2.67$ ,  $SD = 0.88$ ) and that they had been provided with a lot of information about the FFA ( $M=2.80$ ,  $SD=0.82$ ). Non-members also indicated that the FFA had a great image at their school ( $M=2.71$ ,  $SD=0.88$ ). Furthermore, non-members reported that the local FFA chapter had many FFA activities ( $M=2.70$ ,  $SD=0.85$ ) and that these activities were for all students regardless of their ethnicity ( $M=3.25$ ,  $SD=0.68$ ). On average, both FFA members and non-members agreed that the FFA was an organization open to students of both genders and all ethnic groups. Non-

members also indicated that joining the FFA was cost effective ( $M=2.66$ ,  $SD=0.84$ ).

With regard to recruiting practices, non-members indicated that their FFA advisor encouraged them to join the FFA organization ( $M=2.73$ ,  $SD=0.83$ ) and that the local FFA chapter had many activities in which members could participate ( $M=2.70$ ,  $SD=0.85$ ). Non-members reported that most of their friends were not FFA members ( $M=2.22$ ,  $SD=0.91$ ) and non-members agreed with FFA members in their dislike of the FFA jacket ( $M=1.97$ ,  $SD=0.93$ ).

#### *Students’ Perceptions of the FFA Image as Influenced by Selected School and Demographic Factors*

There were no significant differences identified in the interaction effects between FFA membership status, gender, and ethnicity. FFA membership status and prior enrollment and enrollment choice in an agriculture class had no significant effect on the opinions of students. A school’s block scheduling status did not significantly influence the respondents’ opinion of the FFA image. Furthermore, the interaction effect of FFA membership status and block scheduling did not yield significant differences.

A Pearson Product Moment Correlation Coefficient of 0.08 ( $p=.13$ ) for the correlation between FFA organizational image and the respondent’s grade level was generated. Based upon these results, there was not a significant relationship between the respondents’ grade level and their opinions of the FFA organization’s image. Another Pearson Product Moment Correlation was computed to test the significance of the relationship between the respondents’ level of participation in school organizations on their opinions of the FFA image. A correlation coefficient of 0.096 ( $p=.11$ ) for the FFA organizational image was generated. There was no significant relationship found between the respondents’ level of participation in school organizations and their opinions of the FFA organization’s image.

Table 1  
 Perceptions of Members and Non-Members of the Overall Image of the FFA

FFA Image Items	Members (n=167)		Non-Members (n=237)		F
	Mean	Std. Dev.	Mean	Std. Dev.	
The FFA has activities for all students regardless of whether they are male or female.	3.45	0.56	3.41	2.23	0.06
The FFA has activities for all students regardless of race.	3.41	0.66	3.25	0.68	5.03*
I would join the FFA in the future if given the chance.	3.29	0.75	2.42	0.95	80.96*
The FFA is only for students who want to be farmers.	3.29	0.75	3.12	0.71	4.71*
The FFA is for all students in my agriculture class, not just a few elite students.	3.25	0.82	3.07	0.73	5.51*
I have been provided with a lot of information about the FFA.	3.24	0.66	2.80	0.82	31.38*
The benefits I would receive from being in the FFA are worth at least the cost of the FFA membership dues.	3.21	0.77	2.66	0.84	35.13*
My agriculture teacher encouraged me to join the FFA.	3.14	0.77	2.73	0.83	24.64*
I think that the FFA is a cool organization.	3.13	0.66	2.54	0.93	43.32*
The FFA information I have seen looks modern and up-to-date with other student organizations.	3.11	0.69	2.93	2.28	0.85
FFA members at my school are nice people who treat non-members with respect.	3.11	0.65	2.88	0.77	8.76*
I knew what the FFA was before signing up for the class.	3.10	0.65	2.67	0.88	23.58*

\*p<.05. 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

*Table Continues*

Table 1 (Continued)

FFA Image Items	Members (n=167)		Non-Members (n=237)		F
	Mean	Std. Dev.	Mean	Std. Dev.	
The FFA has a great image at our school.	3.07	0.77	2.71	0.88	14.94*
Participation in the FFA does not cost much.	3.07	0.81	2.97	2.66	0.23
A lot of my friends are FFA members.	3.01	0.81	2.22	0.91	72.38*
Our school has a lot of FFA activities.	2.94	0.66	2.70	0.85	6.33*
My parents encouraged me to join the FFA.	2.58	0.79	1.86	0.72	70.15*
I like the FFA jacket, regardless of whether or not I am a member.	2.40	0.94	1.97	0.93	17.97*

\* $p < .05$ . 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

### Conclusions, Implications, and Recommendations

*Conclusion 1: A student's decision to join or not join the FFA is influenced by their perceptions of the image of the FFA organization in their school.*

In general, FFA members' responses to items related to the image of the FFA organization were significantly more positive than the responses of non-members.

*Conclusion 2: A student's gender and ethnicity do not influence their perceptions of the image projected by the FFA organization in their school.*

Students' responses to items on the questionnaire were not significantly influenced by gender and ethnicity. The FFA has developed numerous recruiting materials in recent years that not only represent the current ethnic and gender characteristics of the membership, but also portray what FFA membership could be if it were more diverse in ethnicity and gender.

*Conclusion 3: Voluntary enrollment in an agriculture class and prior enrollment in an*

*agriculture class does not influence a student's perceptions of the image projected by the FFA organization in their school.*

This study did not find that student's enrollment choice or prior enrollment in an agriculture class made a significant difference in their decision to join or not join the FFA. Students who are involuntarily enrolled in an agricultural class may not necessarily be adverse to joining the FFA, just as students who voluntarily enroll in an agriculture class are not necessarily motivated to join the FFA.

*Conclusion 4: Block scheduling does not influence a student's perceptions of the image projected by the FFA organization in their school.*

Once considered to be an obstacle in the planning and implementation of FFA activities (Becton, 1996), block scheduling did not influence students' decision to the extent that it either encouraged or discouraged membership. North Carolina schools have been utilizing block scheduling for a number of years, and perhaps FFA advisors have begun to recruit effectively

and retain FFA members under the system. Because a low number of students were on a traditional schedule, it would be imprudent to generalize the results of the analysis of this research question to the entire population of students that were enrolled in Agriscience Applications in the spring of 1999.

*Conclusion 5: Grade level does not influence a student's perceptions of the image projected by the FFA organization in their school.*

This study did not find a relationship between a student's grade level and their FFA membership status.

*Conclusion 6: The scope of participation in school clubs and formal athletic activities does not influence a student's perceptions of the image projected by the FFA organization in their school.*

The scope of participation in school clubs and organizations might be effective in characterizing the students who might join and participate in FFA activities, but it did not singularly affect a student's opinions of the FFA organization's image.

The results of this study are supported in the literature by Maslow (1970). At an age when most students are becoming eligible for FFA membership, they are also entering a period of human growth and development characterized by a need for contact, intimacy, and a sense of belonging. The implications are significant for the FFA and agricultural education in that students tend to join and participate in the FFA based upon the organization's ability to meet a student's need for a sense of belonging. The FFA should continue to seek ways to involve all members in positive personal growth activities that allow students to experience that sense of belonging. Based upon the responses of members, the social aspects of the organization were motivating factors in their desire to be members. However, the students today are not necessarily interested in some of the traditions of the FFA organization.

One traditional method that the FFA has used to encourage a sense of belonging among students was through the use of the FFA jacket. Students hold a less than

favorable opinion of the FFA jacket today. The FFA may need to work toward providing more sophisticated methods of instilling that sense of belonging and comradeship that FFA members have enjoyed in its long history. Agriculture teachers should not necessarily rely on traditional methods for recruiting and retaining members in the FFA. The FFA services provided to students in years past will not necessarily bring students into FFA membership today. Agriculture teachers should appreciate the traditions of their profession, and use these traditions as motivators to teach effectively.

Modern recruiting methods should be developed that capitalize on the favorable impression created by the FFA organization's image. For non-members, the value of FFA membership must not only be worth the cost of FFA membership dues, it should probably significantly exceed the cost of dues. If membership benefits currently exceed the actual cost of national, state and local dues, then perhaps recruiting and retention efforts should send that message to students.

The findings that emerged from this study led to recommendations for future research. It is proposed that research be conducted in the area of gender and ethnic diversity among agricultural education students. While this study found that no significant differences exist between students of differing ethnic backgrounds, the low number of ethnic minorities in this study necessitates the need for additional study.

One additional proposal would be to conduct a study to determine the continued need for the official FFA jacket. Both the majority of members and non-members expressed negative opinions as to the style of the FFA jacket. The official FFA jacket has been in use for much of the FFA's history and is a highly recognizable symbol of the organization. Perhaps a study would identify the continued value of the FFA jacket to the organization and suggest alternatives to its use.

For more than 70 years, the FFA has endeavored to make a positive difference in the lives of students by developing their potential for premier leadership, personal

growth and career success through agricultural education. Based upon the responses of students in the study, the FFA is an organization open to all agricultural education students and that the organization is providing something for young people that is worth at least the cost of membership dues. It is essential that we realize the importance of the FFA advisor in the students' decision to join and participate in the FFA. On average, members and non-members agreed that the instructor encouraged them to join the FFA. This could be the result of active recruiting efforts, the presentation of a quality instructional program led by an enthusiastic and well-trained teacher, or a combination of both. Students might be joining the FFA because they have a good perception of a quality program, and students might not join because their perception of the program is such that the benefits of membership do not exist for them.

At one school, the students were in the process of completing the survey instrument when a student raised his hand and, referring to an item on the questionnaire on the instrument, asked the instructor, "Have you encouraged us to join the FFA?" After a pause, the instructor was forced to answer in the negative. In this researcher's opinion, the most disappointing answer given by a student during the administration of the survey instrument was that he or she, "didn't join the FFA because it isn't at my school anymore."

The agriculture teacher has the primary responsibility of seeing that the FFA is an important and functional part of the agricultural education curriculum. He or she must secure positive school and community support for FFA programs and encourage students to participate in these programs. The success or failure of the FFA organization may depend upon a multitude of factors, but the FFA advisor is perhaps the most important factor in the equation, especially from the standpoint of encouraging students to join the FFA.

### References

Becton, L.K. *The Impact of Alternative Scheduling on the Complete Agriculture*

*Education Program*. Unpublished masters thesis, North Carolina State University, Raleigh.

Frick, M.J., Birkenholz, R.J., Gardner, H., Machtmes, K. (1995). Rural and urban inner-city high school student knowledge and perception of agriculture. *Journal of Agricultural Education*, 36, 7-8.

Martinez, N. (1998). Personal Interview with Nolo Martinez, Special Assistant to the Governor for Hispanic Affairs, State of North Carolina.

Maslow, A. (1970). *Motivation and Personality*. (2<sup>nd</sup> Ed.) New York: Harper & Row.

National FFA Foundation. (1997). *1997 Annual Report*. Indianapolis: Author.

North Carolina Department of Public Instruction (1995). Unpublished raw data on FFA membership. Raleigh, NC: Agricultural Education.

Scanlon, D.C., Yoder, E. P., Hoover, T.S., & Johnson, S.S. (1989). Factors Affecting Past and Prospective Enrollments in Secondary School Agricultural Education Programs and FFA Membership. Paper presented to the National FFA Board of Directors, Alexandria, VA.

Sirkin, A.F. & McDermott, M.P. (1995). *Keeping Members: CEO Strategies for 21<sup>st</sup> Century Success*. Washington, D.C.: ASAE Foundation.

Sutphin, H.D. & Newsom-Stewart, M. (1995). Student's rationale for selection of agriculturally related courses in high school by gender and ethnicity. *Journal of Agricultural Education*, 36, 54-60.

Talbert, B.A. & Larke, A. Jr. (1995). Factors Influencing minority and non-minority students to enroll in an introductory agriscience course in Texas. *Journal of Agricultural Education*, 36 38-45.

*The American Heritage College Dictionary*. (1993). Boston: Houghton Mifflin Company.

Weiten, W. (1989). *Psychology: Themes and Variations*. Belmont, CA: Brooks/Cole Publishing.

Wortman, J. (1997). *Block Scheduling in Agricultural Education as Perceived by Students*. Unpublished Masters Thesis. North Carolina State University, Raleigh.