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THE EFFECTIVENESS OF TEACHER EDUCATION AS PERCEIVED BY BEGINNING TEACHERS IN AGRICULTURAL EDUCATION

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Abstract

The presence of a highly qualified and certified teacher in every classroom is a noble goal, but one questions whether or not this goal is attainable given the present difficulty in finding enough certified career and technical education teachers to teach in America's schools. Beginning agriculture teachers in a Southern state were asked to determine the quality of their teacher-preparation experience. The study also sought to determine if a relationship exists between a teacher's overall sense of preparedness and teacher efficacy, and determine if a difference exists between agriculture teachers prepared through a pre-service program at a teacher education institution and agriculture teachers who had no formal preparation experience. Based upon the findings of this study, agriculture teachers with less than three years of professional experience believed that their teacher preparation programs, in most cases, adequately prepared them to teach. The study also determined that the teacher's degree of confidence in their ability to teach was positively related to their perceived effectiveness in the classroom. The study did not find any differences between methods of preparation by which a teacher enters the profession.

Introduction/Theoretical Framework

The Elementary and Secondary Education Act of 2000 influences how state education agencies and teacher education institutions prepare and certify teachers for the classroom. The presence of a highly qualified and certified teacher in every classroom is a noble goal, but one questions whether or not this goal is attainable given the present difficulty in finding enough certified teachers to teach in America's schools. The teacher turnover rate in the southern state in which this study was completed was 12.37 percent in the 2003-2004 academic year ([State] Department of Public Instruction, 2006).

In the late 1990's the State Board of Education realized the need to develop a series of standards that defined the profession of teaching ([State] Professional Teaching Standards Commission, 2000). With cooperation from the state legislative body and the governor, the Board created a professional teaching standards commission to develop these standards. Over the course of eighteen months, the commission received input from teachers, parents, and others in "teacher town meetings". As draft standards were created, the public had the opportunity to review them and make suggestions for improvement. ([State] Professional Teaching Standards Commission, 2000). The standards agreed upon by the [State] Professional Teaching Standards Commission (2000) are 1.) teachers know the content they teach, 2.) teachers know how to teach students, 3.) teachers be successful in teaching a diverse population of students, 4.) teachers be instructional leaders, 5.) teachers reflect on their practice, and 6.) teachers respect and care about students. These six core standards represent the base performance level to which every teacher should be prepared upon exit from an accredited teacher education institution in the state.

In an earlier analysis of the study by Darling-Hammond, Chung and Frelow (2002) that analyzed the variation in teacher preparation, Silvernail (1998) performed an earlier factor analysis that arrived at five basic groups similar to the [State] Professional Teaching Standards Commission. The results of Silvernail's analysis found the five factors that best described a teacher's sense of preparedness were: 1.) promoting student learning, 2.) teaching critical thinking and social development, 3.) using technology, 4.) understanding learners, and 5.) developing instructional leadership (Darling-Hammond, Chung, and Frelow, 2002).

Generally speaking, agriculture teachers are prepared for field service in two ways. The first method is through a pre-service agriculture teacher education program at a higher education institution. Students in a teacher education program generally complete a baccalaureate course of study that leads to teacher certification by a state education agency. Students complete courses in technical agriculture, educational psychology and pedagogy. This course of study helps teacher candidates develop into what Delnero and Montgomery (2001) define as the three basic roles of agriculture teachers: academic teachers, coaches and mentors. The second method involves the provisional certification of a person who is coming into the teaching profession from the private sector. Persons who wish to teach, but do not have teacher certification, usually complete a series of courses designed to provide them with an understanding of the teaching process. Whether or not these provisionally certified teachers are required to have a baccalaureate degree in technical agriculture depends upon the certification requirements of the particular state in which they are teaching or plan to teach. In recent years, these two methods have been amalgamated to form a third method of teacher preparation by which the teacher with a baccalaureate degree in technical

agriculture completes one additional year of college work to earn teacher certification. In this method, the teacher education courses are reserved for this last year of academic work.

At issue is whether or not these certification pathways are valid. Darling-Hammond, Chung and Frelow (2002) surveyed 3000 teachers in the New York City school system to determine their attitudes toward their teacher preparation method. Their study found that teachers who received professional training through a pre-service teacher education program reported that they were significantly better prepared to teach when compared with the attitudes of their colleagues who were certified through a lateral-entry teacher preparation program. Specifically, teachers who had completed a formal teacher education program felt better prepared to manage student misbehavior, and teach higher order thinking skills. Castillo and Cano (1999) found that teachers were at least slightly satisfied with their jobs on the basis of personal achievement, advancement, recognition and responsibility. This finding is congruent with the findings performed of agricultural education studies by Moore (1975) and Bledsoe, Cox, and Burnham (1967). Of the teachers in their study, Darling-Hammond, Chung and Frelow (2002) found that black and Hispanic teachers experienced a greater sense of efficacy than Caucasians. Furthermore, their research found that those teachers with more teaching experience tended to report greater feelings of efficacy. However, the greatest predictor of teaching efficacy was in the participants' perception of how prepared they were to teach. Teachers who felt poorly prepared reported that they would most likely not remain in teaching for very long, and would not enter teaching again as a profession if given the choice (Darling-Hammond, Chung, and Frelow, 2002).

For urban schools, the deficiencies of teacher preparation are all too apparent. Students who graduate from teacher education programs do not wish to teach in an inner-city school system (Follo, Hoerr, & Vorheis-Sargent, 2002). The school system is forced to find alternative means for supplying teachers for the classrooms in these inner city schools. Johnson (2002) asked school administrators to identify the key factors that would significantly improve school leadership. The most strongly reported factor was the ability of administrators to remove poor teachers from the classroom (Johnson, 2002). As teacher education institutions move toward a more concentrated focus on student learning and away from routines that have proven to be ineffective, the chasm between teachers from teacher education institutions and provisionally certified teachers will most likely continue to grow (Darling-Hammond, 2000).

Objectives

The objectives of this research are to: 1.) Determine how agriculture teachers view the quality of their teacher-preparation experience; 2.) Determine if a relationship exists between a teacher's overall sense of preparedness and teacher efficacy; and 3.) Determine if a difference exists between agriculture teachers prepared through a pre-service program at a teacher education institution and agriculture teachers who had no formal preparation experience.

Methodology

The population for this study was agriculture teachers with five years or less formal teaching experience in a high school or middle school agricultural education program in the southeastern United States. Using the procedures identified by Gall, Borg and Gall (1996), a proportional random sample was drawn from a list of beginning teachers supplied by the state agency with responsibility for agricultural education.

This study employed a survey instrument developed by Darling-Hammond, Chung, and Frelow (2002). The survey instrument was comprised of three sections. The first section gathered demographic information about the participants in the study. Participants were asked to provide information about their years of teaching experience, ethnic background, and the grade level at which they taught. Darling-Hammond, Chung and Frelow (2002) did not find gender and age to be significant factors, and thus the researcher chose to omit these variables from the study. The second section of the instrument was comprised of 40 statements requiring the participant to choose a response form a Likert-based scale. The response scale ranged from 0 (not prepared at all) to 4 (well prepared).

The final section of the survey instrument asked subjects to rate their opinion of statements concerning the profession of teaching. Professional educators and teacher educators working in the New York public school system validated the instrument. An analysis of the instrument's reliability yielded a Cronbach's Alpha of .95. Data was analyzed using the Statistical Package for Social Sciences 11.5.0. For research objective one, means and standard deviations were computed for each item on the survey instrument. For research objective two, correlational statistics were computed for each item related to teacher preparedness and efficacy. The Davis convention was used to describe the magnitude of correlations (Davis, 1971). For objective three, an independent samples T-test was performed by using the method of preparation as the grouping variable.

In order to protect the double blind review process of the completed manuscript, references and citations for specific documents are masked. Citations and reference referring to specific state agencies were masked by substituting the term "[State]" in place of the actual state name, and "[City]" in place of the city name. If this manuscript is accepted for presentation and publication in the conference proceedings, then citations and references will be unmasked. This is in accordance with the procedure described in the American Psychological Association Publication Manual (2001).

Findings

The population for the study was 58 instructors with five or less years of teaching experience. The survey instrument response rate was 77.5%. To achieve this response rate, one initial mailing was sent to all 58 instructors, and non-responders were sent a second or third follow-up mailing. Instructors who did not respond by mail after the third mailing were contacted by telephone. Those respondents who returned survey instruments prior to the second mailing were compared with respondents who returned instruments sent out in subsequent mailings. Comparisons were made on the basis of known demographic information including faculty size and estimated general method of teacher preparation. Although not a part of the data collection process, the geographic region in which the late respondents are employed was available to the researcher. Furthermore, the researcher used data available through the state director for agricultural education to determine whether or not the late responders were first-year teachers. Using the method prescribed by Miller and Smith (1983), the early and late responders were compared on the basis of known data, and no significant differences were discovered.

All of the instructors in this study have earned at least a bachelors degree in some field of agriculture or agricultural education. Twenty (44%) of these teachers completed their formal education through an undergraduate teacher education program. The remaining 25 teachers earned, or are in the process of earning, their teaching license through graduate school or alternate methods. One-third of the teachers in the study had also completed some type of post-baccalaureate work with eleven teachers earning a masters degree and their teaching license. The remaining four teachers in the study with graduate level experience received their teacher certification through provisional means. Of the remaining teachers in the study, one entered the teaching profession as a substitute teacher and worked into a permanent position in an agricultural education program. One teacher entered the teaching profession through participation in Teach for America. Of the teachers in the study, 13 entered the profession with no prior teaching experience, but with a college degree in an agriculturally related field. In summary, 62.2% of respondents (n=28) came into teaching via a teacher education program, and 84.4% of respondents (n= 38) had three years or less teaching experience. Most of the respondents work in a single-teacher program (n=28) with the remaining ones predominantly in two-teacher programs. The average age of respondents was 32, with 56% of respondents (n=25) at or below the age of 29.

One question on the survey instrument asked the participants to determine how well prepared they were to teach when they first started teaching. Teachers in this study reported that they were adequately prepared to teach (M=1.86, SD=0.58). With regard to teacher efficacy, participants were confident that they were making a difference in the lives of students (M = 2.60, SD = 0.57) and that they can handle most discipline problems in the classroom (M = 2.33, SD = 0.63). Participants also agreed that they have the ability to reach and teach students (M = 2.26, SD = 0.44) while maintaining a high standard of performance (M = 2.00, SD = 0.67). Conversely, participants in this study believe that they had an influence on the success of students, more so than students' peers and home environment. However, teachers expressed that they did not know how to teach some of their students, and that academic failure is due to the students' failure to apply their skills and abilities in the academic setting. Respondents disagreed

with the idea that they had little influence over students. Table 1 describes the mean responses to items regarding teacher efficacy.

Table 1.

Mean Scores of Respondents on Items Related to Teacher Efficacy

Item (n= 45)	Mean	SD
I am confident I am making a difference in the lives of students.	2.60	0.57
I am confident in my ability to handle most discipline problems that may arise in my classroom.	2.33	0.63
If I try hard I can get through to most of my students.	2.26	0.44
Students fail because they do not apply themselves.	2.26	0.65
I am confident in my ability to integrate information technology into my students' learning.	2.22	0.64
I am confident in my ability to teach all students to high levels.	2.00	0.67
I am uncertain how to teach some of my students.	1.75	0.65
My students' peers have more influence on their motivation and performance than I do.	1.60	0.57
Most of a students' experience depends on the home environment, so teachers can have little influence.	.99	0.58

Note. 0 = Not Prepared; 3 = Very Well Prepared

From among those items that addressed the promotion of student learning, participants in this study felt most prepared to use instructional strategies that helped students learn (M = 2.22, SD = 0.70). Respondents felt adequately prepared to set challenging and appropriate expectations for students (M = 2.17, SD = 0.68), and teach subject matter in a manner that enables students to learn (M = 2.15, SD = 0.56). Overall, respondents used their knowledge about teaching and the curriculum to plan instruction (M = 2.15, SD = 0.63). To a lesser extent, respondents reported that they were adequately prepared to create relevant curriculum materials (M = 2.04, SD = 0.63), create discipline-based curriculum materials (M = 1.88, SD = 0.80), evaluate curriculum materials (M = 2.08, SD = 0.59) and secure relevant teaching materials from community resources (M = 2.06, SD = 0.86). Not every respondent felt prepared to choose appropriate teaching strategies to meet individual student needs (M = 2.04, SD = 0.67) and help students meet rigorous academic standards (M = 2.00, SD = 0.70), but the majority of respondents did feel at least adequately prepared to do these. The majority of respondents felt at least adequately prepared to assess student learning in a variety of ways (M = 1.95, SD = 0.70). Respondents indicated that they were prepared to help students assess their own learning (M = 1.73, SD = 0.65) and understood how different students learn (M = 1.82, SD = 0.71). Table 2 reports the mean responses to items related to student learning.

With regard to teaching critical thinking and social development, respondents indicated that they were adequately prepared to use questioning skills to stimulate student learning, and through their preparation were adept at developing students own questioning skills. Teachers also felt adequately prepared to use effective communication strategies to guide student learning and were able to engage students in cooperative group work as well as independent work.

Teachers felt adequately prepared to help students learn to think critically, interpret ideas from different perspectives, and develop the classroom environment that promoted social development while helping students become self-motivated. Table 3 reports the mean responses to items related to critical thinking.

Table 2.

Mean Scores of Respondents on Items Related to Promoting Student Learning

Item	Mean	SD
Use instructional strategies that promote active student learning.	2.22	0.70
Set challenging and appropriate expectations of students.	2.17	0.68
Teach subject matter in a way that enables students to learn.	2.15	0.56
Plan instruction by using knowledge of subject matter.	2.15	0.63
Evaluate curriculum materials for their appropriateness for students.	2.08	0.59
Identify and obtain resources to create a multicultural curriculum.	2.06	0.86
Choose teaching strategies to meet different student needs.	2.04	0.67
Develop curriculum that builds on students' interests and abilities.	2.04	0.63
Help students achieve high academic levels.	2.00	0.70
Use a variety of assessments to determine students' strengths.	1.95	0.70
Create discipline-based and interdisciplinary curriculum.	1.88	0.80
Understand how different students in the classroom are learning.	1.82	0.71
Help students learn how to assess their own learning.	1.73	0.65

Note. 0 = Not Prepared; 3 = Very Well Prepared

Table 3.

Mean Scores of Respondents on Items Related to Teaching Critical Thinking and Social Development

Item	Mean	SD
Use questions to stimulate different kinds of student learning.	2.31	0.73
Develop students' questioning and discussion skills.	2.31	0.66
Use effective verbal and nonverbal communication strategies to guide student learning and behavior.	2.26	0.68
Engage students in cooperative group work as well as independent learning.	2.22	0.76
Help students learn to think critically and solve problems.	2.17	0.71
Develop a classroom environment that promotes social development and group responsibility.	2.17	0.64
Encourage students to interpret ideas from diverse perspectives.	2.04	0.63
Help students become self-motivated and self-directed.	2.00	0.67

Note. 0 = Not Prepared; 3 = Very Well Prepared

Respondents indicated that they were at least adequately prepared to support research and analysis. The primary method for doing this was through use of the World Wide Web. Teachers were also prepared to teach teamwork and collaboration skills, assess student progress and use

technology to increase student interest in the subject matter. Teachers also indicated that they were prepared to use technology to communicate with others in the school and community. Teacher preparation programs adequately prepared respondents in this study to understand how family background may influence learning. Respondents felt at least adequately prepared to understand how students social, emotional, physical, and cognitive development influence their learning, and how factors in the students environment influenced their learning. To a lesser extent, respondents felt adequately prepared to engage parents in the learning process, and formulate instruction to meet special learning needs. As instructional leaders, teachers felt adequately prepared to assume leadership responsibilities in their respective schools. Teachers indicated that they are able to maintain an orderly learning environment and plan and solve problems collaboratively with their colleagues and students. Table 4 reports the mean responses to items related to using technology, understanding learners, and instructional leadership.

To determine whether a difference existed between teachers prepared at a pre-service program at a teacher education institution and agriculture teachers who had no formal preparation experience, an independent samples t-test was performed. The test variables were the mean scores for each of the following subscales: efficacy, content, practice, diversity, leadership, reflection, and rapport. Respondents in the survey were placed into two groups. One group included all those instructors who were prepared in a traditional preparation program in teacher education. The remaining instructors who enter the teaching profession through alternative licensure were placed in the other group. As a result by the independent samples t-test, only one significant difference was found to exist between the means of these two groups on item number two on the survey instrument. This item asked teachers to rate their ability to determine how different students in the classroom were learning. The teachers prepared via the traditional method of teacher education indicated a higher level of preparation than their counterparts.

To determine if a relationship existed between teachers' perceptions of their teacher preparation method and their effectiveness in the classroom, a correlational test was performed on the data. The moderately strong positive correlation was found to exist between the respondents' sense of preparedness and their ability to handle discipline problems in the classroom, and their ability to teach students at a challenging level. A moderately strong positive correlation also exists between the respondents' preparedness and their confidence level in making a difference in students' lives. There also exists a moderately strong correlation between preparedness to teach and the delivery of a rigorous academic program that integrates information technology. A moderately negative correlation was found to exist between teacher preparedness and the likelihood that the teacher's opinion would indicate that student success is more dependent on the home environment than the classroom instructional environment. Table 5 reports the results of the correlational analysis.

Table 4.

Mean Scores of Respondents on Items Related to Using Technology, Understanding Learners and Instructional Leadership

Item	Mean	SD
Using Technology		
Support research and analysis.	2.37	0.68
Enhance group collaboration and teamwork.	2.26	0.71
Communicate with others.	2.24	0.74
Increase student interest and learning.	2.11	0.57
Assess and track student achievement.	2.00	0.73
Understanding Learners		
Understand how students' cultural background influences learning.	2.08	0.63
Understand how students' social, emotional, physical and cognitive development influences learning.	2.04	0.70
Understand how factors in the students' environment influence learning.	2.02	0.69
Work with parents and families to support student learning.	1.82	0.74
Identify and address special learning needs and/or difficulties.	1.75	0.71
Instructional Leadership		
Assume leadership responsibilities in your school.	2.26	0.71
Maintain an orderly and purposeful learning environment.	2.11	0.71
Plan and solve problems with colleagues	2.06	0.78
Resolve interpersonal conflict in the classroom.	1.80	0.69

Note. 0 = Not Prepared; 3 = Very Well Prepared

Table 5.

The Correlation Between Teacher Preparation and Teacher Efficacy

Items	Overall, how well prepared did you feel when you first started teaching?
If I try hard I can get through to most of my students.	.095
I am confident in my ability to handle most discipline problems that may arise in my classroom.	.480(*)
Students fail because they do not apply themselves.	-.060
My students' peers have more influence on their motivation and performance than I do.	.098
I am confident in my ability to teach all students to high levels.	.387(*)
I am confident I am making a difference in the lives of students.	.411(*)
I am uncertain how to teach some of my students.	.248
I am confident in my ability to integrate information technology into my students' learning.	.320(*)
Most of a student's experience depends on the home environment, so teachers can have little influence.	-.301(*)

Note: * p <.05.; 0 = Strongly Disagree; 3 = Strongly Agree

Conclusions

Agriculture teachers with less than five years of professional experience believed that their teacher preparation programs, in most cases, adequately prepared them to teach. Teachers in this study indicated that they possessed a degree of competence in their ability to influence students in a positive way. They expressed competence in their ability to manage the classroom for effective student learning. A significant relationship exists between a teacher's overall sense of preparedness and certain aspects of teacher efficacy. Teachers who reported a sense of preparedness for the classroom also indicate a significant degree of confidence in an ability to handle visible problems, confidence in the ability to teach all students at challenging levels, and confidence in the ability to integrate technology into their learning. The method of preparation by which a teacher enters the profession does not seem to influence their perceptions of preparedness for field service. No differences were found between the two groups with regard to teacher efficacy, content area knowledge, practice, leadership within the school, professional reflection, and rapport with students.

Discussion

Agriculture teachers with less than five years of professional experience believed that their teacher preparation programs, in most cases, adequately prepared them to teach. Teachers in this study indicated that they possessed a degree of competence in their ability to influence students in a positive way. They expressed competence in their ability to manage the classroom for effective student learning. A significant relationship exists between a teacher's overall sense of preparedness and certain aspects of teacher efficacy. Teachers who reported a sense of preparedness for the classroom also indicate a significant degree of confidence in an ability to handle visible problems, confidence in the ability to teach all students at challenging levels, and confidence in the ability to integrate technology into their learning. The method of preparation by which a teacher enters the profession does not seem to influence their perceptions of preparedness for field service. No differences were found between the two groups with regard to teacher efficacy, content area knowledge, practice, leadership within the school, professional reflection, and rapport with students. While the study did not find any differences between traditionally prepared teachers and alternatively certified teachers, the small sample size and population for this study make it imprudent to generalize the results of this study beyond its population.

With regard to how agriculture teachers view the quality of their teacher preparation experience, it is important to note that the respondents believe that they had been adequately prepared to teach. Overall, teachers feel good about the job they do in the classroom and they believe they possess the adequate skills necessary to promote student learning to acceptable levels. They also believe in their ability to teach critical thinking skills and help students develop socially within the classroom. The teachers believe that they were adequately prepared to use technology in the classroom to engage students in the lesson and that same technology can be used to assess and track student achievement. Teachers believe that the methods learned in pre-service enable them to understand learners better. Teacher preparation methods helped the respondents learn how to prepare good learning experiences for students by introducing them to the importance of understanding the whole student. A student is more than just the person sitting

in a class during a given class period. Teachers in the survey indicated that they understood that students are complex individuals with unique cultural backgrounds, and that the student is influenced by their present state of social, emotional, physical and cognitive development.

Teachers in this study believe that their preparation for the classroom included the development of leadership skills. Consequently, our teachers are confident in assuming leadership responsibilities and have skills in collaborative problem solving. The mean scores for interpersonal conflict resolution in the classroom were relatively lower than other items related to instructional leadership. While the teacher education programs can teach prospective teachers the foundations of classroom management including conflict resolution, perhaps this skill is best refined on the job. Objective two of this study sought to determine if a relationship existed between a teacher's overall sense of preparedness and teacher efficacy. This study found some significant positive relationships between teacher preparation and efficacy. The more that a teacher felt prepared to teach, the more likely they were to feel that they were being effective in the classroom. Specifically, teachers who felt they were well prepared to teach also were confident in their ability to handle visible problems in the classroom. Furthermore, teachers who felt well prepared to teach also felt confident in their ability to teach students to high levels, and that they were making a difference in the lives of students. Teachers who were well prepared to teach were confident in the ability to integrate information technology in the classroom. This study found that the higher the teacher's sense of preparation, the less likely they were to feel powerless in their influence over students. This finding is congruent with other studies in the profession. Because of the stress and workload associated with the first few years of teaching (Stoner and Wankel, 1986), it is a positive sign that teachers see pre-service preparation for the classroom as a key factor in their teaching effectiveness.

Objective three of the study sought to determine whether or not a difference existed between agriculture teachers prepared by teacher education institutions and those agriculture teachers who had no formal preparation experience with regard to readiness to teach. Although only 13 teachers in this study came into the profession with no prior teaching experience, this researcher had expected to see more than just the minor difference between those teachers and those prepared by a teacher education institution. The only difference that this research study found was in the area of learning styles. Teachers who graduated from teacher education institutions had a better grasp of how different students were learning in the classroom. While it is reassuring to know that the majority of teachers have indeed learned something about teaching from their teacher education institution, the responses from teachers who did not go through a teacher education institution raises a major concern. Either teacher education does not make a strong difference in the preparation of teachers for the classroom, or those teachers who have no pre-service experience do not have a valid interpretation of their skills and abilities. Since studies have found that teacher education does work, perhaps the reason teachers with no pre-service experiences rated their abilities so highly is because they do not know what they do not know.

There is one other possibility that may explain the lack of difference between teachers with pre-service experience and those teachers with no pre-service experience. In the state where this study was performed, teachers with no pre-service experience generally go to the teacher education institutions for coursework that fulfills provisional licensure requirements. So, the reason why so many teachers with no pre-service experience rated their abilities as comparable

to teachers with pre-service experience could be due to the fact that they both received or are in the process of receiving instruction from the same teacher education institutions. This argument reduces the differences between pre-service trained teachers and in-service trained teachers to a matter of timing – some teachers took education courses in college and some took them, or are taking them, while actively engaged in teaching.

Recommendations

It is also recommended that this study be conducted on a regional or national level. Given the low number of alternatively licensed teachers in this study, it would be unwise to draw inferences between them and traditionally prepared teachers.

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A CASE STUDY ANALYSIS OF AFRICAN AMERICAN AGRICULTURISTS AND THEIR PERCEIVED FUTURE IN AMERICA

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Abstract

The objective of this study was to gain a more complete understanding of the historic processes and unique challenges that have faced African American farmers as they have tried to gain operating independence and viability through the use of cooperative tools. Some of the challenges in providing support for the progression of Black farmers include building new organizational strategies to develop and maintain independent farming, and adopting practices, such as value-added activities and market development.

Results indicate that African American agriculturists may have feelings of distrust and fear toward the USDA as programs and structures that have been put in place have proven to be historically hostile to African American farmers. Such discrimination is thought to be the major reason that the nation's already dying corps of black farmers is dwindling at three times the rate of farmers nationwide.

Small farmers, the group of farmers to which most African American farmers belong, are the backbone of the sustainable agricultural future. Government subsidized loans and grants are designed to support the small farmer, and provide vital resources to this important segment of the farming industry. In order for this system to operate effectively, it must operate equitably. To discriminate against small farmers, and to further marginalize particular small farmers with racially discriminatory practices in the administration of financial assistance, contradicts the spirit and purpose of these USDA programs.

Introduction

From the newly freed slaves of 1863 to today's black farmers, African Americans have fought to acquire and maintain land and have encountered crippling obstacles along the way. In 1910, nearly one million black farmers in the U.S. owned 15 million acres; by 1969, they held only 6 million acres. In 1920, blacks owned 14% of the nation's farms; today, there are only 18,000 black farmers, representing less than 1% of all farms (Public Broadcast Service, 2004).

The federal government provided a limited number of opportunities for blacks to acquire land. In 1865, General William T. Sherman's Field Order #15 deeded "40 acres and a mule" to black families on the South Carolina and Florida coasts (Public Broadcast Service, 2004). According to the United States Census of Agriculture, in 1910 Black farmers owned approximately 15.6 million acres of farmland nationally. By 1982, this figure had declined to only 3.2 million acres. Currently Black owners are losing land at a rate as high as 9000 acres per week (USDA, 2000).

The independence of Black America has always been based on three primary factors; the right to vote as symbolized by participation in the governmental authority; the right to an equal opportunity to pursue educational aspirations to the highest as symbolized by America historically Black institutions; and, finally, the right to own land as symbolized by Black family farms (US Civil Rights Office, 1982). Even though Civil Rights and voting rights have made strides in helping farmers maintain land, it still has not been enough. Black farmers obtaining the right to own land is essential in establishing a sound base of political and economic power, which can guarantee Black independence now and in future generations.

Governmental studies continue to reveal a network of corrupt governmental officials at the local and national levels systematically appropriating Black land while displaying racist attitudes (US Civil Rights Office, 1982). Records show that in 1984 and 1985, according to the United States Census of Agriculture, the United States Department of Agriculture (USDA) lent $1.3 billion to farmers nationwide to buy land, and that almost 16,000 farmers received funds, 209 of which were Black. In 1993, an Associated Press analysis found Black farmers on average received $21,000 less than white borrowers from a Farmers Home Administration loan program. More recently, in a class action lawsuit, Pigford versus USDA, it was alleged that in many cases Black farmers were turned away from obtaining loans needed to maintain ownership of land. In many instances, these lands had belonged for many decades to Black family farmers. Some individuals also experienced delays when trying to borrow funds to purchase lands from other Black farmers, while credit for making such purchases were made available sooner to white farmers. These instances not only frustrated the opportunity of some Black farmers to expand their scale of operation but also increased concern for the loss to Black farming in general (US Civil Rights Office, 1982).

The situation is urgent and emergency measures are needed to help keep the remaining Black owned land, an asset of $250 million, in Black hands. African Americans who are heirs to property should be aware of who is being impacted as they decide to sell the land of their ancestors that their grandparents and great-grandparents struggled hard to obtain. The urban African Americans need to understand that the only real power in the United States is land. However, the “aging” of agriculture is also having an impact; the average age of American

farmers reached 54.3 years in the last census (Zippert, 2001). This creates great concern in retaining Black farming land, as young farmers are attracted to life in the big cities.

The history of Black farmers has demonstrated many barriers and triumphant moments. However, it is important to unveil the negative occurrences in the past and to acknowledge current trends among Black farmers. This will enable research conducted to provide an analysis of the perceived future of the profession seen through the eyes of Black farmers themselves.

Purpose and Objectives

The purpose of this study was to gain a more complete understanding of the historic processes and unique challenges that have faced African American farmers as they have tried to gain operating independence and viability through the use of cooperative tools. In order to accomplish the aforementioned purpose the following objectives were developed:

1. To identify past trends impacting African American agriculture.
2. To determine current trends impacting the future of African American agriculture
3. To determine the future of African American agriculture
4. To identify strategies to improve the state of African American Agriculture.

Methodology

A population of 16 farmers was selected for this descriptive census survey study. The agriculturists attended a regional Black Land Loss Summit in Whitakers, North Carolina. The rationale for utilizing all elements of the population concerns the convenience of having such an assessable population of black farmers located in one location (N=16).

At the time of this study, a survey suitable to meet the research objectives was not found. A survey instrument was developed by the researchers based on research questions of this study with the aid of an extensive literature review. The validity of the instrument was established by means of content validity. Brown (1983) defined content validity as "the degree to which items on a test representatively sample the underlying content domain" (p. 487). Brown recommended using expert judges as one means of establishing content validity. A panel of experts at North Carolina Agricultural and Technical State University, consisting of the researcher's graduate committee, reviewed the instrument for content validity.

The survey instrument for this study consisted of five sections: Section I - Demographics and Program Characteristics, Section II - Perceptions of past trends which have impacted African American Agriculturists, Section III- Perceptions of current trends that may impact the future of African American Agriculture, Section IV- Perceptions of the perceived future of African American Farming, and Section V- Perceptions of strategies that will help improve the state of African American Farming. Section one utilized a combination of closed and open-ended responses concerning various demographics and farm variables. Sections two through five utilized a five-point Likert-type scale with the following responses: 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, and 5=Strongly Agree.

In order to test reliability, a post hoc reliability test was taken at the conclusion of data collection on each section of the survey instrument. Cronbach's alpha was used as the reliability measure for this study. Nunnally (1967) suggested that 0.5 to 0.6 would be high enough in the early stages of research. The 0.8 measure is commonly used. Measurements of 0.9 might not be high enough where precision is needed. Cronbach's alpha reliability coefficients for the survey were as follows: Section Two = 0.51, Section Three = 0.48, Section Four = 0.282, and Section Five = 0.763.

Findings

Overall the respondents in this study were male, possessed at least a high school education, were on average sixty-three years of age (Table 1.).

Table 1. Personal Demographics

Demographics	Subcategories	N	Mean or Percent
1. Age		16	63.88
2. Gender	Female	0	0%
	Male	16	100%
3. Race/Ethnicity	American	0	0%
	Asian American	0	0%
	Black/African American	16	100%
	Caucasian	0	0%
	Hispanic/Latino	0	0%
4. Highest Degree:	Less than high school	2	12.5%
	High school	9	56.3%
	Associate degree	0	0%
	Bachelor degree	1	6.3%
	Masters	3	18.3%
	Doctorate	0	0%
	Some college	1	6.3%

In relation to the farm operation demographics of respondents, the majority resided in Virginia, produced a variety of commodities such as tobacco, corn, vegetables/fruit, timber (Table 2). Others commodities included livestock, wheat, soybeans, and cotton. Respondents had farmed for at least thirty-seven years, owned the majority of land farmed, and had both been denied are received loans from the USDA. A great majority had received USDA disaster resistance and participated in conservation programs, while a slight percentage had participated in other programs.

Table 2. Farm Operation Demographics

Demographics	Subcategories	N	Mean or Percent
1. Residence	North Carolina	5	31.3%
	Virginia	10	62.5%
	Arkansas	1	6.3%
2. Products Produced	Tobacco	14	
	Corn	14	
	Wheat	9	
	Soybean	9	
	Cotton	2	
	Vegetables/Fruit	12	
	Timber for harvest	11	
	Cattle	7	
	Hogs	9	
	Poultry	6	
	Other	5	
3. Hold a job off the farm.			43.8%
4. Length of time farming (Years).			37.12
5. Number of generations farming.			3
6. Number of acres owned.			125.56
7. Number of acres rented.			70.81
8. Own a computer.			62.5%
9. Received loans from USDA.		10	62.5%
10. Denied a loan from the U.S. Department of Agriculture (USDA).		9	56.3%
11. Participate in any of annual commodity programs.		11	68.8%
12. Participate in any conservation programs.		10	62.5%
13. Received USDA disaster assistance.		12	75.0%
14. Participate in any other federal programs:	Export	1	6.3%
	Research	3	18.8%
	Minority Farm Outreach (2501)	2	12.5%
	Marketing	1	6.3%
	No Response	9	56.3%

With regard to past trends that have impacted African American Agriculture, respondents agreed upon factors such as discrimination, lack of government support, networking through cooperatives, and procedures in place concerning socioeconomic, racial/ethnic, and gender (Table 3). In contrast respondents disagreed that governmental programs were successful in addressing the needs of African American Agriculturalists.

Table 3. Past trends impacting African American Agriculture

Past Trends	Mean	SD	Rank
1. African American agriculturist have been denied the assistance qualified for as a result of discrimination.	4.37	1.63	1
2. Radical changes in agriculture have severely limited farmers' power in decision-making and their ability to survive on the land.	4.07	1.61	2
3. A lack of support by the government has hindered the progress of all farmers in America.	4.00	1.59	3
4. Black cooperatives encourage African American agriculturists to be more assertive of their rights to organize.	3.56	1.55	4
5. Procedures were in place that acknowledged variations in socioeconomic, racial/ethnic and gender lines.	3.50	1.34	5
6. Organizations independent of the government were more supportive.	3.19	1.20	6
7. A lack of support by the government has hindered the progress of African American agriculturists.	3.19	1.64	6
8. Assistance was provided to assist you in overcoming financial barriers.	2.94	1.15	7
9. There were substantial government efforts to help African American agriculturists to maintain independence and to utilize cooperatives.	2.50	1.09	8
10. Programs implemented by the government were successful in addressing the needs and interests of African American agriculturists.	1.94	.96	9

Scale: 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, and 5=Strongly Agree.

For objective three respondents were asked to give their perception regarding current trends impacting the future of African American agriculture (Table 4). Respondents agreed that prejudicial issues, work time spent on farm, and lack of family support were trends impacting African American Agriculture. On the contrary they disagreed that governmental agencies such as FSA and cooperative extension give equal attention to their needs.

Table 4. Current trends impacting the future of African American agriculture

Impact on Future	Mean	SD	Rank
1. Prejudicial issues are still a major concern for African American agriculturists.	4.44	.89	1
2. The majority of work time is spent on the farm.	4.31	.70	2
3. Lack of family support has encouraged the decrease in the number of African American agriculturists.	3.81	1.56	3
4. Experiencing racial discrimination is just as prominent as it was before the Pigford v. Veneman case (Black farmers vs. USDA).	3.81	1.22	3
5. Black farmers are not treated as well as white farmers by the Fair Housing Administration.	3.75	1.39	4
6. You can identify something else other than farming as an occupation.	3.19	1.80	5
7. Local administrations (FSA, NRCS) are providing assistance in a timely manner.	3.00	1.51	6
8. Current programs are readily available to assist your agricultural needs.	2.94	1.39	7
9. For the most part, white farmers and Black farmers are treated alike by FSA.	2.44	1.63	8
10. In general, Extension workers give more attention to Black farmers than to white farmers.	2.19	1.33	9

Scale: 1= Strongly Disagree, 2= Disagree, 3= Uncertain, 4=Agree, 5= Strongly Agree

With regards to the future of African American Agriculture, respondents strongly agreed that the return of foreclosed lands would strengthen the future of African American agriculture. It was also strongly agreed upon that a new farm bill, more outreach, and more technical assistance were needed in order to impact African American agriculture (Table 5). Additionally it was strongly agreed upon that more networking and monitoring of USDA agencies would be needed. Respondents also agreed that black owned farms would continue to decline, and that access to attainment of legal and financial expertise was difficult.

Table 5. Perceptions of the future of African American agriculture

Perceptions of the Future	Mean	SD	Ranking
1. Return of foreclosed lands to the Black farmer will strengthen the future of African American family farming.	4.50	1.10	1
2. A farm bill to strengthen American family farms is needed.	4.88	.50	2
3. Future efforts need to include more outreach, technical assistance and funding to educate farmers.	4.69	.60	3
4. USDA/Farm Services Agency should be monitored more strictly.	4.56	1.09	4
5. Can forming strategic partnerships make a profound difference for the future of African American farmers?	4.50	.73	5
6. In the future, Black owned farms will continue to go out of business.	4.38	*.89*	6
7. There should be implementation of the Civil Rights Action team (CRAT) and National Small Farm Commission recommendations.	4.38	.81	6
8 Access to credit without discrimination in the future for all family farmers will strengthen ownership.	4.00	1.26	7
9. It is hard to find attorneys and economists to assist in the battle to overcome the racism and illegal actions of the USDA.	4.00	.73	8
10. Is there a future in farming?	3.44	1.59	9

1= Strongly Disagree, 2= Disagree, 3= Uncertain, 4=Agree, 5= Strongly Agree

Respondents strongly agreed that strategies to improve the state of African American agriculture include networking, becoming politically active, encouraging future generations to enter the profession through agriculturally based youth organizations, and establishing educational programming through local school boards (Table 6). It was also found that 1890 Land-Grant institutions and the black church must become more involved in the future of the industry.

Table 6. Perceptions of strategies to improve the state of African American Agriculture.

Strategies to Help	Mean	SD	Rank
1. African American family farmers must network to establish better connections to community resources.	4.88	.34	1
2. Totally different political and economic structures must be examined to maintain survival and maximize forthcoming opportunities.	4.81	.40	2
3. To maintain the survival of Black agriculture, younger generations must be influenced to follow the trade.	4.75	.58	3
4. Other agricultural associations must take steps to encourage Black youth to participate (FFA, 4-H).	4.69	.48	4
5. School Boards (K-12) must also establish programs that educate students on the plight of Black agriculturists and the significance of agriculture.	4.50	.73	5
6. In the final agreement in the Pigford verses Venemen (Black farmers verses USDA), there must be a statement of action to ensure Black Youth a future in agriculture.	4.37	.96	6
7. 1890 Land Grant colleges (historically Black universities must design programs targeting the plight and relevance of Black agriculture.	4.19	.98	7
8. The Black church and Black agriculturist must establish a working relationship in order for the larger Black community to grow respectfully.	3.94	1.06	8

1= Strongly Disagree, 2= Disagree, 3= Uncertain, 4=Agree, 5= Strongly Agree

Conclusions

Based upon the findings of this study, the following conclusions are presented:

1. The average age of the African American agriculturists in this study was 64. This indicates that younger generations are choosing not to continue the operation of the family farming business. This supports findings that do not expect the growth of small family farms to last, as longtime farmers die and their children sell the properties (Peralte, 2004).

2. African American agriculturists were in agreement concerning past trends that have impacted farming. The trends involved decades of discriminatory actions by USDA officers. Loan officers discouraged, delayed or rejected loan applications because of race. This indicates that African American agriculturists may have feelings of distrust and fear toward the USDA as programs and structures that have been put in place have proven to be historically hostile to African American farmers. Such discrimination is a major reason that the nation's already dying corps of Black farmers is dwindling at three times the rate of farmers nationwide (Ates, 2002).

3. African American agriculturists were uncertain as to whether infrastructures

established by the government (Farm Service Agency (FSA),USDA: Natural Resource Conversation Service (NRCS) and the Forest Service) enabled them to overcome financial barriers and assisted them in maintaining independence and utilizing cooperatives. Therefore, if African American agriculturists are uncertain, maybe this is an indication that they were not properly educated or informed by government agencies on the programs and services provided, or perhaps, those participating in the study are not familiar with the financial institutions afforded Black farmers in the past. If prior generations were not aware of the services being provided, lack of knowledge may have directly resulted in failure of their farming operations. However, there is documentation that indicates the government implemented various programs targeting the needs of Black farmers, but sustainability was short-lived (Public Broadcast Service, 2004).

4. African American agriculturists disagreed that the government was successful in addressing their concerns, needs and interests in the past. This finding indicates that regardless of the government's pursuit to implement programs tailored to their interests, African American agriculturists were not satisfied with the effort. Maybe this is a result of the many unfulfilled promises by the government, such as the promised "40 acres and a mule", and the attempt to promote land tenure/income stability for rural America (Hortan & Horton, 2001). Both were administered in a discriminatory manner, or geared toward the more solvent and educated upper tiers of those in need.

5. African American agriculturists strongly agreed that efforts by minority organizations and class action lawsuit, have not lessened their concern on prejudicial issues. This indicates that the lawsuit Pigford v. Veneman (a.k.a. Pigford v. Glickman) brought by African American farmers who alleged that USDA discriminated against them on the basis of their race in its farm credit and non-credit benefit programs has not enabled them to forgive and forget. On April 14, 1999, the court approved a consent decree resolving the case (Cowen and Feder, 2008). In many cases, farmers are still waiting for the government to fulfill their promises in the Consent Decree. Perhaps farmers are not happy with the way the settlement concluded since it did not solve their problems. They also may find fault with the agreement because it does not force the USDA to change its policies to permanently stop discrimination in the loan and assistance process.

6. African American agriculturists disagreed that programs and services implemented by the government provide equal opportunities to black and white agriculturists. A survey conducted by Farmers Home Administration (FmHA) showed that cooperative grants and loans were implemented by the Farm Service Agency (FSA) to low-income farmers. Also, financial assistance was available to farmers seeking to lease land, acquire land, acquire farm equipment, livestock insurance and other resources (Mittal & Powell, 2000). Given this finding, it is evident to researchers that the Black agriculturists still felt discriminated against

7. African American agriculturists agree that implementation of the Civil Rights Action Team (CRAT) and National Small Farm Commission will enable family farmers to gain better access to credit and encourage land ownership. This finding indicates that farmers

do not believe they can achieve financial stability nor gain access to lost land as long as discriminatory actions by the government still exist. As a result, agriculturists feel that in the future Black owned farms will continue to go out of business. This may be as a result of the continual decline in the number of Black owned farms and the constant struggle to obtain financial support from the government and the lack of admission by the USDA to permanently stop discrimination and follow through with promises to Black farmers (Ates, 2002).

8. African American agriculturists strongly agreed that in order to successfully regain economic viability many strategic methods and steps must be taken, such as providing more outreach; improving technical assistance; providing more funding to educate farmers; returning foreclosed land to Black farmers; restructuring the Farm Bill; strict monitoring of the USDA and FSA, and building strategic partnerships in the community. These findings indicate that African American agriculturists are aware of the importance and need of precise measures to be taken in order for their respective operations to survive. Without coordination with other producers to adopt effective strategies for competing in their local markets and entering new, more lucrative markets, opportunities for these farmers will shrink (Holmes, Richardson & Schofer, 2002).

9. African American agriculturists strongly agreed that in order for Black agriculturists to survive, the following strategies must be established: 1) Programs in K-12 to educate students on the history of Black agriculturists and the importance of agriculture; 2) Agricultural associations must be more active in encouraging Black youth to participate in FFA and 4-H; and 3) Different political and economic structures should be implemented to maximize access to future opportunities. These strategies and proposals indicate that African American agriculturists firmly believe that developing infrastructures targeting the needs of African American agriculturists will secure the future for the next generation (Civil Rights Action Team, 2004).

11. African American agriculturists agreed that improving their state of existence will depend on establishing networking relationships among the community, such as the Black church and 1890 Land Grant colleges and universities. Also, African American agriculturists believe that the implementation of programs targeting black youth in the final agreement (consent decree) of the Pigford v. Venemen will secure the future of Black farmers (Civil Rights Action Team, 2004). This finding indicates that agriculturists are willing to work cooperatively with organizations and institutions in order to rebuild Black agriculture for future generations.

Recommendations

Based on the aforementioned conclusions, the following recommendations are made:

1. *Return of Land*: Return foreclosed lands to the Black farmers and pay adequate compensation for the abuse of their human rights over the decades.

2. *Registry of Black Farmers and Landowners*: Implement Civil Rights Action Team (CRAT) recommendation requiring the USDA to create a voluntary registry of Black and other nonwhite farmers and landowners. This registry will serve as a baseline measuring tool to determine the number of Blacks and other minority farmers and the extent of their landholdings. The registry will assist the USDA in planning outreach, education, and technical assistance programs. The registry will also assist the USDA and farmer organizations in evaluating the effectiveness of USDA services and programs in maintaining diversity and plurality in the ownership of farmland in the nation.
3. *Support for Outreach, Technical Assistance, and Education Funding*: For the implementation of the settlement to be effective and supportive of Black farmers, there is a need for a program of concentrated outreach, education, and technical assistance for Black and other disadvantaged farmers. In 1990, Congress authorized $10 million to be allocated every year (Section 2501 of the Minority Farmers Rights Act) for this purpose. This was the first time the Federal government targeted funding for technical assistance and outreach for minority farmers. The Act was a response to the 1982 U.S. Commission on Civil Rights report stating that the primary reason Black farmers have lost land is because of the USDA itself. However, at no time since 1990 has the full $10 million been awarded; in fact, Black farmers have been shortchanged by over $50 million in the past nine fiscal years.

4. *Better USDA Research and Education Funding and Activities*: More support and funding is needed from the USDA for research, education, and extension activities geared to the needs of Black family-sized farmers, instead of all its activities catering to the needs of the large-scale farmers.

5. *Democratization of the USDA/Farm Services Agency (FSA) County Committee System*: The FSA County Committee election system must be reformed and made more democratic and representative. There are only a handful of African American committee members elected across the South. As a result, the system has failed to provide fair representation of Black and other minority farmers on these critical local decision-making committees.

6. *Full Implementation of the CRAT and National Small Farm Commission Recommendations*: In 1997, the USDA published the Civil Rights Action Team report and in 1998 the National Commission on Small Farms published "A Time To Act," which contained recommendations for improving the USDA's services to its Black farmer and all family farmer customers. The implementation of the legal settlement should include full implementation of the recommendations in these reports.

7. *Tax Considerations*: Enhanced tax considerations and exemptions should be considered for farmers and landowners and experiencing discrimination, to retain their landholdings in agriculture, forestry, and wetlands.

8. *Farm Bill for the Farmers*: Serious alterations and/or complete revision of the next Farm Bill is necessary to strengthen America's family farmers by providing a minimum price

safety net and programs to end the discrimination against small family farmers. Several of the CRAT recommendations are currently being addressed by draft legislative amendments or new legislative proposals.

Implications

The goal of the research was to gain a more complete understanding of the historic processes and unique challenges that have faced Black farmers as they have tried to gain operating independence and viability through the use of cooperative tools.

The history of discrimination that led to the Pigford suit tells the tale of deeply entrenched institutionalized racism. The discrimination that led to the suit still persists in many forms, including even the administration of a civil rights settlement. Instead of a fair facilitation of the settlement, the victimization continues with delay tactics and aggressive litigation strategies. According to the Civil Rights Action Team, several of the aforementioned recommendations are being addressed by draft legislative amendments or new legislative proposals (Pigford Arbitrator, 2004).

A settlement is a cooperative process, not a small-scale litigation battle. Ultimately, the farmers have not fared substantially better than they predicted. Thus far, research shows a startling 86% of the farmers with discrimination complaints have been unsuccessful and have walked away from the settlement with no money and no ability to redress their grievances in a court of law. Other claimants have had lengthy litigation and uncertain results as the reality of the outcome of the settlement. Only 18 claimants of nearly 200 have been successful before the arbitrator and 20 still await the initial hearing over five years after the settlement was reached (Pigford Arbitrator, 2004). This is not a favorable outcome; however, it is a continuation of the disenfranchisement of the African American farmer at the hands of the USDA.

Small farmers, the group of farmers to which most African American farmers belong, are the backbone of the sustainable agricultural future. By contributing a heightened awareness of the needs of the land, utilizing sustainable practices such as multi-cropping, and by supporting the growth and wealth of their local communities, small farmers provide an invaluable resource to the agricultural system. Government subsidized loans and grants are designed to support the small farmer, and provide vital resources to this important segment of the farming industry. In order for this system to operate effectively, it must operate equitably. To discriminate against small farmers, and to further marginalize particular small farmers with racially discriminatory practices in the administration of financial assistance, contradicts the spirit and purpose of these USDA programs.

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USING AGRICULTURAL EDUCATION GRADUATES' GEFT SCORES TO ASSESS THEIR LEVEL OF JOB SATISFACTION

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Abstract

The purpose of this study was to assess satisfaction variables (salary, academic advising, career satisfaction, and overall program quality) of agricultural education graduates at the University of Missouri according to their learning style. The Group Embedded Figures Test (GEFT) was used to measure learning style. The results of the study revealed the overall mean GEFT score for the graduates were 12.9, indicating the group were more field-independent than field-dependent. Over two-thirds (68.93%) of the graduates were identified as field-independent. No practical differences existed in employment decisions between those who were field-independent and those who were field-dependent. When assessing salary, nearly 15% of field-dependent learners earned $50,000 or more as compared to 7% of field-independent learners. When aspects of academic advising mean scores were compared by learning style, little differences existed. When job satisfaction scores were correlated with GEFT scores, a positive, low correlation existed (r = .11), indicating that GEFT was not a good predictor of job satisfaction, even though it had been linked with academic performance and overall success in higher education). In all, when compared by GEFT learning style, little differences existed in current employment, salary, academic advising, overall program quality, and job satisfaction.

Introduction – Theoretical Framework

Because not all graduates enter the exact professions in which they were prepared, they must be equipped with transferable skill sets, (Candy & Crebert, 1991; Evers, Rush & Berdrow, 1998; Garton & Robinson, 2006; Hewitt, 2005; Hofstrand, 1996; Mullen, 1997; Peddle, 2000; Robinson & Garton, 2008; Robinson, Garton & Terry, Jr., 2007; Shivpuri & Kim, 2004; Tetreault, 1997). To that end, not all agricultural education graduates enter the teaching profession. In a study of agricultural education graduates at the University of Missouri, Cartmell and Garton (2000) found over one-third had entered professions outside of teaching, which has, perhaps, impacted the shortage of agricultural education teachers (Camp, Broyles, & Skelton, 2002; Kantrovich, 2007). Additionally, because of the teacher shortage, graduates from disciplines other than education are entering the teaching ranks as alternatively certified teachers in agricultural education programs (Robinson, 2008; Rocca & Washburn, 2006). Therefore, it is important that higher education prepares its graduates for a plethora of career opportunities (Cole & Thompson, 2002; Evers et al., 1998; Martin, Milne-Home, Barrett, Spalding, & Jones, 2000; McLaughlin, 1995; Peddle, 2000).

Specifically, agricultural education curriculum should address the educational and career preparation needs of students who desire careers outside of school-based teaching (Goecker, 1992). When students are equipped for a variety of careers, the preparation is reflected well upon the university. However, not all graduates feel prepared once they graduate. According to Candy and Crebert (1991), graduates sometimes struggle because they are unfamiliar with how to cope in a new environment. Graduates fail to adjust to the lack of a structured environment such as those provided in higher education settings. Because graduates struggle to adjust to their new environment, it becomes increasingly important for universities to track their graduates, know where they go, and what becomes of them in their future endeavors. It also becomes important to identify factors, within the control of the university, that contribute to preparing students for successful careers. Martin et al. (2000) concluded that identifying such factors could better prepare graduates for their chosen careers and meet the needs of employers. However, the task of improving these factors becomes more difficult when a program offers a variety of career options.

A possible factor to consider is one's level of job satisfaction. Job satisfaction could be viewed as a determinant for the retention of graduates in their chosen career. "Job satisfaction refers to the individual's attitude toward the various aspects of their job as well as the job in general" (Rogers, Clow & Kash, 1994, p. 15). For graduates to maximize their performance on the job, they must be satisfied with their job.

Tse & Wilton (1988) stated in order for people to experience satisfaction on the job, they must perceive themselves as performing successfully. Hughes (1937) posited that for success and satisfaction to occur in one's job, both objective and subjective criteria must be present. Heslin (2005) noted that objective career success entails pay and promotions while subjective career success entails job satisfaction, earnings, and job status. Kaskiri (2006) opined that success related to one's career is based upon criteria such as salary and level of job satisfaction as well as predictors such as cognitive ability, socio-economic status, and personality factors.

Additionally, given the context of the university setting, could the way a person performs or learns be used to predict his/her job satisfaction? Pace (1987; cited in Martin et al., 2000) noted that "perceptions of learning . . . were related to college satisfaction" (p. 201). If a student's perception of learning relates to being satisfied in college, can learning style be used to predict one's career satisfaction?

Lovelace (2005) stated that "learning style is the way that students begin to concentrate on, process, internalize, and remember new and difficult academic information" (p. 176-177). Learning style has been explained as distinct behaviors which serve as stable indicators of how a person learns and adapts to his/her learning environment (Gregorc, 1979). It has also been identified as a factor influencing how students transition from school to work. Candy and Crebert (1991) noted a disparity between how a university prepares a student for work and how the workplace utilizes that employee's learning style.

One form of measuring one's learning style is the group embedded figures test (GEFT). An extensive amount of research in agricultural education has linked learning style to the field-dependence/independence (Cano & Porter, 1997; Cano, 1999; Garton, Dauve, & Thompson, 1999; Guild & Garger, 1985; Kitchel & Cano, 2001; Torres, 1993; Torres & Cano, 1994; Witkin, Oltman, Raskin & Karp 1971) GEFT test. Individuals who prefer a field-dependent learning style tend to have a global perception, struggle to solve problems, are more attuned to their social environment, learn better when concepts are humanized, and favor a spectator approach to learning. Additionally, field-dependent learners tend to be more extrinsically motivated and learn better when organization and structure is provided by the teacher (Witkin, Moore, Goodenough, & Cox, 1977).

Conversely, individuals who prefer a field-independent learning style tend to view concepts more analytically, and find it easier to solve problems. They also tend to favor learning activities that require individual effort and study. Additionally, field-independent learners prefer to develop their own structure and organization for learning, are intrinsically motivated, and are less receptive to social reinforcement (Witkin et al., 1977). In a study of The Ohio State University agricultural education majors, Kitchel and Cano (2001) found that 64% were field-independent.

While learning styles (e.g. GEFT scores) have been found to have a positive relationship with academic performance, as measured by grade point average (Torres, 1993; Torres & Cano, 1994), performance in agriculture courses (Garton, Dauve, & Thompson, 1999), and overall success in higher education (Cano & Porter, 1997; Cano, 1999), there have been no studies that have sought to determine if relationships exist between GEFT score (learning style) and career satisfaction of agricultural education graduates. However, the claim seems plausible. Vangsnes (2007) stated

> It has been shown . . . that individuals in different career fields exhibit characteristics of learning that seem to correlate with job responsibilities. What has not been discussed is a possible relationship between vocational satisfaction in relationship to preferred learning style (p. 66).

In fact, Vangsnes suggested that a "person's satisfaction with his/her job, has to do with the way people learn, or their learning style" (p.1). Vangsness further posited "If people pursue their desired field of study based upon their learning style, then it is reasonable to assume they will also exhibit more vocation/career satisfaction than those individuals who have not" (p. 66). Therefore, the foci driving this study were twofold: to examine if and where the relationships

between graduate satisfaction and their learning style existed and to determine what implications graduates' learning style had upon their career choice.

Purpose and Objectives

The purpose of this study was to compare the career satisfaction variables (salary, academic advising, career satisfaction and overall program quality) of agricultural education graduates at the University of Missouri (MU) according to their GEFT learning style score. The following objectives were formulated to guide the study:

1. Describe the salary and GEFT learning style scores of the population.

2. Compare graduates on their current employment decision by their GEFT learning style scores.

3. Compare graduates' salaries, perceptions of the academic advising they received, and their views about the overall program quality by their GEFT learning style scores.

4. Compare graduates' level of career satisfaction by their learning style and determine if a relationship exists between their perceptions of career satisfaction and GEFT learning style scores.

Methods

This research was descriptive in nature and consisted of a five-year census of MU agricultural education graduates ($N = 112$). Students enrolled in agricultural education at this institution currently choose between two degree options: teacher certification and leadership. Those who choose the teacher certification option acquire a teaching license and develop specific skills related to teaching secondary agriculture in school-based settings. Conversely, those in the leadership option develop and apply their leadership, communication, and human relation skills to careers in industry by planning, managing, and disseminating information in non-formal educational settings. In all, a total of 96 graduates responded for an 86% response rate.

In particular, the population for this study consisted of the same group used in a related study by (Garton & Robinson, 2006). As to avoid duplication of the findings, yet properly describe the context of the sample, the following demographic data of graduates are provided: 86% were employed full-time. Of these full-time graduates, 39% were employed as secondary public school teachers, and the remaining 61% of graduates were employed in various industry positions such as sales, management, and communications to name a few.

For the purpose of this study, two parallel questionnaires were developed: one for graduates who pursued careers in industry and one for graduates who pursued teaching secondary agriculture. The questionnaires consisted of seven sections: occupational status, current job satisfaction, factors influencing occupational change, educational experiences, program assessment, quality of academic advising, and open-ended questions.

Specifically, the Brayfield-Rothe (1951) job satisfaction instrument, later modified by Warner (1973), was included for collecting data pertaining to this study. This section consisted of job satisfaction and dissatisfaction factors and employed a five-point Likert-type response scale consisting of: 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree. Reliability estimates were taken from previous research by Cano and Miller (1992a; 1992b) who reported coefficient alphas of .89 and .94, respectively, when assessing the job satisfaction of secondary agricultural education teachers in Ohio while using the same instrument.

Agricultural education faculty and university career placement personnel served as the panel of experts and established the content and face validity for the remaining sections of the instruments. Reliability for the remaining sections was established through a pilot test with 16 senior agricultural education students. Spearman-Brown split-half reliability coefficients ranged from .82 for the quality of academic advising section to .69 for the educational experiences section.

The Group Embedded Figures Test (GEFT) (Witkin et al., 1971) was administered during the graduates' undergraduate program to assess the preferred learning style of students as field-dependent or field-independent. The possible range of scores on the GEFT is zero to 18. Individuals scoring a 0-11 were considered to prefer a field-dependent learning style. Conversely, individuals scoring 12-18 were considered to prefer a field-independent learning style. The GEFT is a standardized instrument that has been used in educational research for more than 30 years (Guild & Garger, 1985). The validity and reliability of the GEFT was established by the developers of the instrument. The GEFT is a timed test; therefore, internal consistency was measured by treating each section as split halves (r = .82) (Witkin et al., 1971). Descriptive statistics (means, frequencies, percentages, and standard deviations) were used to analyze the data. A Pearson-product moment correlation was used, for objective five, in an effort to describe the relationship between career satisfaction and learning style.

Findings

Objective one sought to describe the salary and GEFT scores of the population. A comparison of salaries revealed that only one graduate with a public school teaching career earned less than $20,000, while 10 graduates with industry careers earned less than $20,000 (Table 1). In contrast, no teachers earned a salary of $50,000 or greater. However, nine graduates with industry careers earned an annual salary of $50,000 or greater.

Table 1
Salary Comparison of Graduates in Secondary Teaching vs. Industry Careers

	Public School Teaching		Industry Position	
Salary	*f*	%	*f*	%

Less than $20,000	1	2.7	10	17.9
$20,000 – 24,999	1	2.7	5	8.9
$25,000 – 29,999	3	8.1	8	14.3
$30,000 – 34,999	13	35.1	7	12.5
$35,000 – 39,999	15	40.5	8	14.3
$40,000 – 44,999	3	8.1	4	7.1
$45,000 – 49,999	1	2.7	5	8.9
$50,000 or greater	0	0	9	16.1
Total	37	100.0	56	100.0

An analysis of GEFT learning style scores revealed a mean score of 12.88 (*SD* = 3.89), indicating that the group was more field-independent than field-dependent (Figure 1). The most frequent score was 15 (*n* = 19), followed by scores of 14 and 18 (*n* = 11) for each; thus, it was found that 32 (31%) of those who completed the GEFT were field-dependent and 71 (69%) were field-independent.

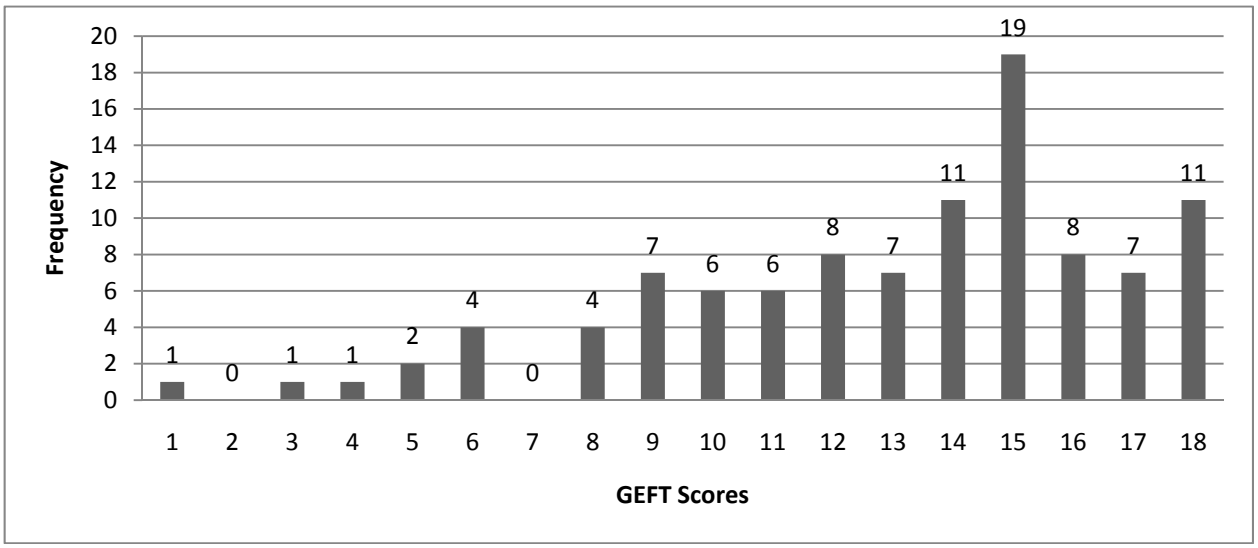

Figure 1. Distribution of GEFT learning style scores.

In meeting objective two, which was to compare graduates on their current employment decision by their GEFT learning style, Table 2 was constructed and sorted by difference in percent from highest to lowest. When comparing the percentage of differences between teachers and industry professionals by employment decision, the highest percentage difference between those who were field-dependent and those who were field-independent was in "sales" (difference

= 7.79%) and "public school teaching" (difference = 7.46%) as their current employment. In contrast, the lowest percentage difference between those who were field-dependent and those who were field-independent was in "production agriculture" and "financial services" (differences = .22%, respectively).

Table 2
Current Employment Decisions Compared By GEFT Learning Style Scores

	Field-Dependent		Field-Independent		
Employment Decision	*f*	%	*f*	%	Differences
Sales	6	20.69	8	12.90	7.79
Public School Teaching	10	34.48	26	41.94	7.46
Government Agencies	2	6.90	1	1.61	5.29
Communications	1	3.45	4	6.45	3.00
Education/Training (non-school)	1	3.45	4	6.45	3.00
Management	3	10.34	8	12.90	2.56
Other	2	6.90	3	4.84	2.06
Graduate School	2	6.90	4	6.45	0.45
Production Agriculture	1	3.45	2	3.23	0.22
Financial Services	1	3.45	2	3.23	0.22
Total	29	100.00	62	100.00	

Objective three sought to compare graduates' salary, academic advising, and overall program quality by their GEFT learning style scores. An examination of the distribution appears in Figure 2.

Figure2. Distribution of salary by GEFT learning style scores.

The greatest amount of discrepancy occurred at $50,000 or more. Nearly 15% of field-dependent graduates made $50,000 or more as compared to roughly 7% of field-independent graduates. In addition, roughly 14% of field-independent learners made less that $20,000 as compared to 11% of field-dependent graduates. In all, the greatest amount of field-independent learners (26%) earned a salary between $35,000 - $39,999, while the greatest amount of field-dependent learners (25%) earned a salary between $30,000 - $34,999.

Table 3 compared academic advising mean scores by GEFT learning style scores and was sorted by differences in mean scores from highest to lowest. Differences in the academic advising mean scores by learning style ranged from .25 to .03. Six academic advising items had a mean score difference above .10 while four items had mean score differences below .10. The largest mean score difference was for the item "planning courses" (difference = .25), and "Organization – Records" (difference = .19), "degree requirements" (difference =. 17), "meeting availability" (difference = .13) and "academic excellence" (difference = .12) followed respectively. "Career advising" (difference = .03) had the smallest mean score difference. As a whole, both field-dependent and field-independent graduates were most satisfied with their academic advisor's ability to prepare them for their degree's requirements ($M_{\text{field-dependent}} = 4.59$, $M_{\text{field-independent}} = 4.42$). Likewise, both field-dependent and field-independent graduates were least satisfied with the academic advising item "experiences – career preparation" ($M_{\text{field-dependent}} = 3.48$, $M_{\text{field-independent}} = 3.53$).

Table 3
Academic Advising Mean Scores Compared by GEFT Scores

Academic Advising Items	Field-Dependent		Field-Independent		Differences
	M	*SD*	*M*	*SD*	
Planning Courses	4.41	.73	4.16	.91	.25
Organization – Records	4.48	.51	4.29	.88	.19
Degree Requirements	4.59	.57	4.42	.84	.17
Meeting Availability	4.45	.69	4.32	.84	.13
Academic Excellence	4.31	.71	4.19	.90	.12
Academic Progress	4.21	.73	4.10	.96	.11
Adequate Time	4.41	.73	4.35	.87	.06
Respect – Value Opinion	4.28	.96	4.34	.85	.06
Experiences – Career Preparation	3.48	.99	3.53	1.13	.05
Career Advising	3.69	1.04	3.66	1.07	.03

Note. Scale: 1 = Poor, 2 = Fair, 3 = Satisfactory, 4 = Very Good, 5 = Excellent

The overall program quality mean scores by GEFT learning style scores and was sorted by differences in mean scores from highest to lowest. Eight overall program quality items had a mean score difference above .10 while six items had mean score differences below .10 (Table 4).

When comparing field-dependent and field-independent learners on items related to program quality, the largest mean score difference was with the item "job placement" (difference = .28). The second highest was a difference of .27 with the item "student organizations." "Internships" (difference = .25), "quality of students" (difference = .20) and "support since graduation" (difference = .17) rounded out the top five. Both field-dependent and field-independent learners scored "agricultural education facilities" (difference = 2.97) exactly the same.

Table 4
Overall Program Quality Item Mean Scores as Compared by GEFT Learning Style Scores

Overall Program Quality Items	Field-Dependent		Field-Independent		Differences
	M	*SD*	*M*	*SD*	
Job Placement	2.68	.90	2.96	.89	.28
Student Organizations	3.82	.39	3.55	.70	.27
Internships	3.67	.62	3.42	.88	.25
Quality of Students	3.72	.45	3.52	.54	.20
Support Since Graduation	3.11	.83	2.94	.94	.17
Instruction	3.76	.44	3.63	.49	.13
Computer Support	3.04	.88	2.93	.79	.11
Availability of Ag Ed Courses	3.59	.50	3.69	.53	.10
Curriculum Organization	3.62	.56	3.71	.49	.09
Availability of Required Courses	3.11	.74	3.18	.59	.07
Courses Preparing for Employment	3.34	.55	3.40	.59	.06
Faculty Competence	3.76	.44	3.73	.45	.03
Courses Preparing for Grad School	3.47	.64	3.46	.69	.01
Ag Ed Facilities	2.97	.73	2.97	.79	.00

Note. Scale: 1 = Poor, 2 = Fair, 3 = Good, 4 = Excellent

Objective four sought to compare graduates' level of career satisfaction by their GEFT learning style scores and determine if a relationship existed between career satisfaction and learning style. Career satisfaction mean scores differed by .05 between field-dependent and field-independent learners (Table 5). A low positive Pearson-product moment correlation of .11 was found between overall job satisfaction and GEFT scores (Davis, 1971).

Table 5
Relationships Between Overall Career Satisfaction Mean Scores by GEFT Scores

	Field-Dependent		Field-Independent	
Variable	*M*	*SD*	*M*	*SD*
Overall Job Satisfaction	4.12	.41	4.17	.45

Note. $r = .11$; Scale: 1 = Strongly Disagree to 5 = Strongly Agree

Conclusions

With regard to salaries, graduates in school-based teaching positions were more similar as opposed to those with industry careers. Approximately 75% of the school-based teachers earned a salary in the range of $30,000 to $39,999. While some industry professionals started at lower salaries as compared to school-based teachers, there is no ceiling as to the salary an industry professional can make.

Of these graduates, the overall mean GEFT learning style score was 12.9, indicating the group leaned toward being more field-independent than field-dependent. Over two-thirds (69%) were identified as field-independent, meaning the group as a whole tended to be more analytical and independent in its learning preference (Witkin et al., 1977). This is consistent with the findings of Kitchel and Cano (2001), who found that 64% of agricultural education majors were field-independent.

While both field-dependent and field-independent learners were equally satisfied with their chosen career, the graduates in this study with the highest salaries were predominately field-dependent. Specifically, a higher percentage of graduates entering sales type positions were more field-dependent, while those teaching in public schools were predominately field-independent.

Little differences existed when comparing aspects of academic advising mean scores by GEFT learning style score. The item "help in planning courses for degree program" had the highest amount of discrepancy, while "quality and availability of job placement" held the highest mean score difference between learning styles on overall program quality. Overall, graduates tended to be very positive toward the advising they received regardless of GEFT learning style.

Job satisfaction mean scores were calculated and correlated with GEFT learning style scores. A positive, low correlation resulted, indicating that GEFT was not a good predictor of job satisfaction even though it had previously been linked with academic performance and overall success in higher education (Cano, 1999; Cano & Porter, 1997; Garton, Dauve, & Thompson, 1999; Torres, 1993; Torres & Cano, 1994).

Implications

One could imply the reason more field-dependent learners are entering sales positions and earning greater salaries is due to the fact that these individuals are more extrinsically motivated. Maybe these individuals have recognized and applied their strengths and preferred learning styles in the workforce. If so, perhaps this finding supports Vangsnes's (2007) assumption that "if people purse their desired field of study based upon their learning style, then it is reasonable to assume they will also exhibit more vocation/career satisfaction than those individuals who have not" (p. 66). Further, is it possible more field-independent learners are entering the teaching ranks as opposed to field-dependent learners because much of their job requires individual effort and study (i.e., grading papers, writing lesson plans, designing rubrics) and they like to control their own structure for the learning process which occurs in the classroom?

Recommendations for Practice

While little differences existed in current employment, salary, academic advising, overall program quality, and job satisfaction when compared with GEFT learning style scores, faculty at this university can note that learning style, either randomly or programmatically, is being addressed in overall program quality and academic advising. As such, faculty should continue to assist students in learning about their preferred learning style in an effort to assist them in gauging their performance with various courses in academia as GEFT has been associated with influencing academic performance (Cano, 1999; Cano & Porter, 1997; Garton, Dauve, & Thompson, 1999; Torres, 1993; Torres & Cano, 1994).

Recommendations for Future Research

GEFT learning style was not a good predictor of job satisfaction. Therefore, further research on the relationship between learning styles and job satisfaction may not be warranted. However, Kaskiri (2006) noted numerous factors that could be used to predict one's career success, such as cognitive ability, socio-economic status, and personality factors. Perhaps these factors may better explain career satisfaction than learning style. Therefore, future research should focus on these areas to determine if they are good predictors of job satisfaction. Martin et al. (2000) called for an evaluation of workplace preparation of college graduates. If learning style is not a valuable predictor, then what is? Further investigation is warranted outside of GEFT scores to identify aspects that may be significantly related to agricultural education graduates' career satisfaction.

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STUDENTS' PERCEPTIONS ABOUT MEXICAN AGRICULTURAL PRACTICES OCCURING IN CHIHUAHUA STATE

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Abstract

Agricultural educators have an impact in shaping students' perceptions. Students involved in studying agricultural education will have an impact in shaping perceptions of people regarding the future of agriculture. As globalization of societies in the world continues and the United States continues to work with Mexico to develop import and export policies, it is important to understand perceptions of Mexico and its agricultural systems. The purpose of this study was to determine agricultural education graduate students' experience of Mexico's agricultural practices, people, and culture. Texas Tech University graduate students attended a six-day international experience in Chihuahua, Mexico. Their perceptions were recorded using preflective and reflective instruments. The results indicated a need to decrease language barriers between students and Mexican nationals, increase scholarship and funding opportunities for students' international experiences, and increase student experiences and exposure to international practices, people, and culture. Earlier research (Wingenbach, et al., 2003) recognized the need to increase student knowledge of international agriculture through increased experiential learning using out-of-country experience, which was supported by the findings in this study.

Introduction

Since 1994, NAFTA (North American Free Trade Agreement) and CAFTA (Central American Free-Trade Agreement between North and South America), have produced issues relevant to effective agricultural production and policy for all countries located in the western hemisphere. Globalization and cultural diversity issues have gained increasing attention in higher education (Zhai & Scheer, 2004). For more than a decade, research has indicated a need to offer international agricultural experiences to students (Harbstreit & Welton, 1992; Wingenbach, et al, 2003; Irani, Place, Lundy, & Friedel, 2004).

NAFTA has altered the system of North American trade, and it has done much to expand agricultural trade (Knutson & Ochoa, 2004). It not only developed a free trade region between developed and developing countries but it also included agriculture as well as other industries. CAFTA encourages trade between the United States and five Central American countries: Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. CAFTA is considered to be the first step to a larger Free Trade Area of the Americas (FTAA) that would include 34 countries. The initial target date for the agreement to go into force was January 1, 2006. By some estimates, the agreement, when fully implemented, could offer U.S. farmers and ranchers a chance to export nearly $1.5 billion per year in agricultural products to the region (AgricultureOnline, 2006).

NAFTA and CAFTA are but two policies affecting the U.S., Canada, Mexico and other countries in South America. It is important to understand how these and other agricultural policies affect the U.S. and other countries.

In a recent publication regarding the World Trade Organization (WTO), it was noted "agriculture provides, or may provide, more than just food and fibre – such as national food security, food safety, environmental benefits (cultural landscape, land conservation, flood control, biodiversity, recreation), cultural heritage and viable rural areas" (Prestegard, 2004, p. 3). Agriculture is changing, not only in the United States but also in Mexico and throughout the world. Agriculturists should remain cognizant of the changes and the impacts of these changes on trade, policy, and production.

Why are international experiences important? The international community is moving towards greater interdependence and globalization is driving a revolution in educational institutions (Zhai & Scheer, 2004). Educational transformations are being shaped by the demands to prepare labor forces for participation in a global economy, and to prepare citizens for participation in the global economy (Torres, 2002). Zhai and Scheer studied global perspectives and attitudes among agriculture students. They discovered there was a need to develop programs in higher education to address globalization and diversity issues in colleges of agriculture. Zhai and Scheer recommended that colleges of agriculture enhance their global/multicultural educational programs through study abroad or other cultural exchange/immersion programs for students to gain both global and cross-cultural competencies.

Why do United States citizens need to achieve global awareness? As agriculture changes throughout the world and as policies continue to be created and carried out, it is important for all United States citizens to achieve global awareness. Nehrt (1993) indicated that the U.S. has

become involved in a global era and education is needed to prepare people for this responsibility. Today's agricultural educators must be able to adjust to the constant changes taking place in the agricultural industry, while developing and delivering educational materials that meet the needs of their diverse student population (Crunkilton & Krebs, 1982). One of the goals in higher education is the achievement of sound educational programs. This should be no different in agricultural education programs.

Social reconstructionist theory challenges that school system should show students the problems facing our world and that these troubles should be addressed throughout every discipline in our school systems. Educators can communicate social problems to students' ambitions to help discover solutions. Communities and its resources can be sought out in developing partnerships to engage students in practical learning opportunities (Agbaje, Martin, & Williams, 2001).

For more than a decade, agricultural educators have become increasingly aware of viewing their profession with a global perspective (Harbstreit & Welton, 1992). Harbstreit and Welton were among the first researchers to recommend 1) increasing the importance of international agriculture towards teaching secondary agricultural students and 2) developing student involvement in supervised experience programs in order to increase international agricultural consciousness.

In response to the call from the *National Research Agenda: Agricultural Education and Communication 2007-2010* Research Priority Area (RPA) of Domestic and International Settings: Extension & Outreach (Osborne, N.D.), RPA 1 stated "ascertain the public's knowledge, views, and openness regarding the agri-food and natural resource system". This research attempts to develop a basic understanding of a small sample's knowledge, views and openness of an international setting regarding agri-food and natural resource systems.

Irani, Place, Lundy, & Friedel (2004) discovered that today's students involved in agricultural sciences had little background in international settings. The study also showed that students were eager and had interest to travel and be engaged in international experiences.

Research has shown a need for students to gain experiences of other countries and cultures (Wingenbach, et al., 2003). Agricultural education students who study international agriculture policy, products, peoples, and culture may increase their experiential learning opportunities and understanding. Higher education must be prepared to assist students in understanding agriculture in its global arena of today educating them by, becoming more internationally minded and remaining informed about agriculture in the U.S., as well as agriculture at the international level.

This research study has the potential to help students obtain knowledge about international agricultural policy, practices, production and products, thereby allowing them to be further prepared internationally, and assisting them with enhanced out-of-country opportunities. Yet, it is impossible for us to understand whether agricultural students are prepared to meet the changing demands in both the United States and countries abroad until we determine their perceptions of international settings and its agricultural systems regarding international

agriculture. Master's students are more likely to be opinion leaders and change agents when compared to undergraduate students. Rogers (2003) stated that opinion leaders exert control of the social system they are members. Therefore, we should be focusing on the experiences, perceptions, and attitudes of students in the graduate setting. These students are/will be influential to those people in which they will be members of their social system.

Mexico maintains a diverse agricultural forum and Chihuahua State is one of Mexico's highest production areas. There has been an increased interdependence in Texas and Mexico due to improved communication and knowledge (Everett, Wingenbach, Piña, & Hamilton, 2004). Graduate students currently studying agricultural education at Texas Tech University will continue educating others about issues such as policy, globalization, cultural diversity, and import and export needs. Therefore, it is important to evaluate graduate students' experience of Mexico's agriculture practices, people, and culture.

Purpose

The purpose of this study was to determine Texas Tech University's agricultural education graduate students' perceptions and attitudes about Mexico's agricultural practices, people, and culture. The objectives were to:

1. Assess graduate students' experience of Mexico's agricultural practices, people, and culture,
2. Determine graduate students' perceptions and attitudes about Mexico's agricultural practices, people, and culture,
3. Describe graduate students' attitudes and perceptions about their experiences in Mexico, and
4. Determine if graduate students' experiences about Mexico's agricultural practices, people, and culture increased through an out-of-country experiential learning situation.

Methods and Procedures

Researchers used a convenience sample consisting of graduate students enrolled in the fall semester of the Texas Tech University AGED 5311 course. Participants took a six-day trip to visit Chihuahua City, Mexico, and surrounding areas; this experience served as the primary "treatment" in the research. Naturalistic inquiry guided this study of nine human subjects through purposive and directed sampling.

The research instruments were developed using modified versions of preflective and post-reflective instruments from research by Jones and Bjelland (2004) and Gamble, Davey, and Chan (1999). The preflective instrument contained seven questions measuring students' initial experience, perceptions, and attitudes about Mexico's agricultural practices, people, and culture before experiencing the international visit. Preflection is a "process of being consciously aware of the expectations associated with the learning experience"…it increases the opportunity of students to gain knowledge from their experiences, which increases their faculty to reflect upon the experience and increases overall knowledge. "Preflection provides a bridge between thinking about an experience and actually learning from the experience" (Jones & Bjelland, 2004, p. 963).

All seven questions in the preflective instrument were short answer fill-in-the-blank. Some examples of the questions are as follows: "What are your initial attitudes/beliefs about visiting Mexico?", "What top three "internal barriers" have prevented you from participating in international experiences prior to the current planned experience?", and "Describe what you expect to gain, personally, from this Mexico experience?"

The post-reflective instrument contained seven questions measuring students' experiences, perceptions, and attitudes about Mexico's agricultural practices, people, and culture after experiencing the international travel. Reflection is the process by which an experience is being considered, during the experience or after the experience. It is also the creation of meaning and conceptualization from experience. Reflection allows the ability to analyze and create perceptions about experiences differently than one might have done without reflection (Brockbank & McGill, 1998, as cited in Gamble, Davey, & Chan, 1999, p. 2). Zhao has defined reflective practice as "ability to reflect on experiences, to employ conceptual frameworks, and to relate these to similar and dissimilar contexts to inform and improve future practice" (Zhao, 2003, p.2). All seven questions in the reflective instrument were short answer fill-in-the- blank and mirrored the preflective instrument. Content and face validity were established though a panel of experts from Texas A&M and Texas Tech Universities. The panel consisted of faculty members who have taught international agricultural courses. Minor editing (wording) changes were made to final versions of the research instruments.

Data were collected over a five-day period in a natural setting. Prior to students' leaving for the Mexico experience, researchers explained the assessment procedures to participants in the study. Verbal and written instructions about the instrumentation were provided. Researchers described the reason for the research and provided hard copies of the preflective and post-reflective questionnaires at the appropriate times. After the initial instruction, students completed the preflective questionnaire before crossing the U.S./Mexico border. Students were given brief oral qualitative questions following each day of the trip. These comments were recorded both written and orally and were coded to ensure study validity. Students participated in a post-reflective survey when they returned from Mexico.

Credibility was achieved through meetings and face-to-face interviews with participants. Researchers asked participants' specific questions to gain a general feeling about the research. Furthermore, credibility was achieved through triangulation, member checking, and a reflective journal. Upon completion of the data compilation, the participants were given the data to review in order to correct errors and verify interpretations. Trustworthiness was established through transferability, purposive sampling, using thick description, and a reflective journal. Dependability was created using a dependability audit and a reflective journal. The constant comparative method was used for data analysis (Lincoln & Guba, 1985, pp. 339-344). Data sources were documented using an audit trail.

Nine students participated in both the preflective and post-reflective surveys and in the daily brief oral questioning. Similar numbers of males and females participated in this study. All participants were graduate students in the department of agricultural education and communication and represented each of the three major focus areas of graduate degree programs in the agricultural education and communications department (education, extension, and

communications). Each respondent was specified a number (e.g. P1, P2) on the preflective instrumentation and maintained the same code for the post-reflective instrument and the daily questions. Responses were as P1-D1, P1-D2, etc.

The researchers used the constant comparative method for each question. This technique was used for the preflective and post-reflective instruments as well as the daily directed brief oral questions.

Research Findings and Conclusions

Prereflection Responses

Participants' preflective attitudes and beliefs about Mexico were best described as "*apprehensive*," in that statements about being nervous and excited about visiting Mexico surfaced. Participants were cognizant of language barriers that would be present, but they were attending the trip to gain as much experience as they could through the experience. One sample statement best exemplified this concern, as being *"Concerned about traveling internationally and not being able to communicate or understand them*" (P7).

Preflective attitudes and beliefs about Mexican culture were described in socioeconomic terms as a "poor economy" in Mexico. Students perceived that there would be political problems present for the peoples of Mexico. "*Mainly I feel their government is chaotic and a little corrupt*" (P3).

The students were asked to list their top three internal barriers which had prevented them from participating in an international experience prior to the Mexico trip. Most occurring responses were nervousness, time, and a lack of desire for an international experience. *""I have a distinct fear of crossing the border; customs and identification primarily"* (P2). Most participants were nervous about going into another country with which they were not familiar, and about which they had no previous first-hand knowledge. Time was perceived as a barrier because of the time it would take to make the trip, and the time it would take out of their work schedules and lives. Another barrier, a lack of desire for an international experience, indicated that most were taking the trip because it was a course requirement and not because they wanted to go for the experience. *"I am sure I will be ready to get back [home] when it's over"* (P1).

Students were asked to list their top three external barriers that had prevented them from taking part in an international experience prior to the Mexico trip. The most common answers were money, language barriers, and an opportunity to be a part of an international trip. *"My parents have been hesitant to support international travel. Money also tends to play into this, as well as time"* (P 5). Money was an external barrier because of the perception of cost of the travel, daily expenses, and not being at their regular employment to receive wages.

Students were questioned about their knowledge of opportunities offered by Texas Tech University to attend international experiences. Most students had limited knowledge of where they could obtain support to participate in international educational endeavors. Some students knew the university had monies for international educational experiences, but had almost no

knowledge on how to seek those funds. Most students knew the university offered opportunities to study abroad, but they had limited knowledge about the process.

Graduate students responded that they hoped to gain knowledge of the political system, trade, government programs, the culture and customs, social and economical issues facing the country. They also responded wanting to gain experience through the agricultural production systems, practices, and issues, an appreciation of the Mexican culture, and an experience in Mexico. "*I hope to gain a broader more developed understanding of the agriculture and policy in Mexico as well as trade policy, government programs and agricultural issues*" (P4). The students wanted to gain experience so that they could relate more to the Mexican people and to their situations. They also felt an appreciation for the Mexican culture would help them understand Mexico's needs. Furthermore, it was stated the experience in Mexico could help them understand how people of Mexico lived.

Post-reflection Responses

Post-experience attitudes and beliefs about visiting Mexico were that agriculture technology was more advanced than they had perceived before this experience. "*Advanced in technology on the educational level*" (P9). "*Overall we in the United States do not realize the great things happening in Mexico*" (P8). Graduate students felt that the experience was a good experience for them. "*A very good experience as far as an overall educational experience and expecting the unexpected*" (P6). It was seen by the graduate students that political corruption was prevalent and hindering agriculture. Furthermore, students felt that research and education were advanced at the university level. "*Country is not as advanced as the university…it did not seem that many people were using the research of the university in their agricultural practices*" (P1)

Post-experience attitudes and beliefs about Mexican culture changed, especially their views of how strong family values were held by Mexican families. "*The people in Mexico exhibited strong religious and family values*" (P7). It was noted that religious values were strong in the Mexican culture. Participants noted that poverty was prevalent in the Mexican society. "*I feel lucky to live in the United States because the majority of the people in Mexico are living in poverty conditions*" (P3).

Students were asked in post-experience reflective questions what internal barriers would keep them from participating in additional international experiences. The main barriers noted were language, money, and being away from home. Language was a barrier that students' felt hindered them from gaining experience. Money was another barrier because of the cost of travel and being away from their regular occupations. Being away from home was a barrier because of ties with their own family, friends, and experiencing an environment where they felt alone and without an accessible tie to their culture.

Daily oral interviews were conducted and provided additional detail and depth into the questions asked on the preflective and post-reflective instruments. Daily questions assessed students' experiences, perceptions, and attitudes after attending daily activities. The interviews support the findings of the instruments with the exception of the degree of change in attitudes and perceptions toward the practices, people, and culture of Mexico. When presented with

questions about international opportunities, students' showed an interest. They perceived benefits to be gained by themselves in the experience and towards those with whom they might interact.

Students were asked to express any external barriers they perceived after experiencing an international trip to Mexico. The most often occurring answers were money, language, and family. This, again, showed that the students perceived international experiences as being costly. As one participant stated *"work, money, and language"* (P7) were main external barriers present in their situation. They also perceived an inability to speak the language as prohibitive. Additionally, being away from family was noted as a barrier from gaining additional experiences via international travel.

During the post-experience reflective phase, students were asked if there were any changes in attitudes and beliefs after participating in an international experience. The most often occurring answer was that there were no changes in beliefs and attitudes. However, in the daily oral questions, students exhibited how their impressions of the people, government, education, agricultural practices, and procedures changed. The second most common change was the perception of technology in agriculture. The students felt there was more use of technology in agriculture than they had originally perceived. The third most oft-occurring change in beliefs and attitudes was the lack of funding for agriculture in Mexico. Students felt that agriculture had minimal support in terms of funds from government to both producers and those teaching agricultural practices at the university level.

Challenges identified from participants included:

- Financial, family, and time constraints were determined as limiting factors to participating in other international experiences.
- There was difficulty with language barriers. This challenge could potentially limit respondents from participating in future travels internationally.

Three distinct trends were discovered through this research. *A need exists to decrease the language barrier between "host country nationals" and students participating in an international experience.* One of the strongest trends discovered among the respondents was the need to decrease language barriers. A participant indicated that, "*There is a large language barrier*" (P2). Another respondent noted, "*Language is by far the largest barrier, it would be very challenging without a fluent translator. It is hard to accomplish anything without good communication*" (P4).

Another strong trend derived from the research was the need to decrease costs of having an experience. *A need exists for scholarships and other funding opportunities for students wishing to participate in international experiences.* Since jobs or educational situations did not readily allow students time off without a reduction in pay, alternative funding sources are needed. One participant remarked, "*Money, scholarships, internships, etc… would make it worth the lost opportunity cost for me*" (P1).

There was an intermediary trend derived from the participants' comments. *A need exists to educate participants about international experiences with regard to people, culture, agricultural practices, products, and policies of the country* There was a need for an experience

of the people, culture, agricultural practices, products, and policies of the country so the students could more readily understand those issues influencing a foreign country. A participant indicated a "*lack of knowledge regarding Mexico's political system (internal barrier) … it would take a lot of time and effort to serve a purpose internationally due to money, language, and knowledge*" (P1).

Conclusions

There is a need to offer international experiences for students in agriculture. Agriculturalists need to be aware of the impact of agricultural policy, issues and experiences and its effects towards the U.S. and other countries. Programs need to be developed to address these global issues, globalization, and diversity in colleges of agriculture. This research agrees with previous research that agriculture students have limited international background and experience. It also concurs that there is a need for students to have knowledge and experiences of other countries and culture.

The research determined there was a need to decrease the language barrier, provide scholarship and funding opportunities, and educate participants regarding agricultural practices, people, and culture. This will allow students the opportunity to become more aware of barriers facing the countries they will be visiting and learning about. This was a qualitative study; one that was not representative of all graduate students in agricultural education, but could be used to focus future research in international agricultural education. The results of this study will help assess students' experiences, perceptions, attitudes and beliefs regarding agricultural practices within a selected geographic area of Mexico.

Implications and Recommendations

Earlier research (Wingenbach, et al., 2003) recommended increasing students' experiences of international agriculture through real life experiences by students in international settings. This research supports that recommendation and offers recommendations for further research in this area. It is recommended educators' form classes that address international agricultural issues. It is also recommended classes offer an international experience component. Classes should create a forum where students gain international experience and enhanced understanding about international agricultural issues.

Additionally, it is recommended to educate students about the people, culture, agricultural practices, products, and policies of the host country visited. As stated by one participant "o*verall we in the United States do not realize the great things happening in Mexico*" (P8). This experience allows students to understand more readily the dynamics of Mexico's agricultural practices, people, and culture. This information will assist in alleviating barriers the students may face when traveling internationally.

Understanding customs, values, and beliefs of the country visited by participants is beneficial. This will allow more perceptive reflection when participating in an international experience. Considering other cultures from their perspectives allows a more thorough knowledge about those people which may change their attitudes and beliefs and have an

understanding of what people internationally face in their daily lives. This will allow students to look for solutions which may help the people of the host country.

Further research on perceptions and attitudes of graduate students can show more insight into the needs of those students wishing to participate in international experiences. Through addressing trends found in this study, barriers will be lessened and a more full understanding and greater experience for students can be obtained. Understanding of an international setting is paramount to gaining experience and addressing perceptions and attitudes by outsiders regarding another country.

It is recommended that students enroll in classes and spend time engaged in conversational language study. Language study should not be in-depth, but cover basic skills needed in everyday conversations. Participants should understand basic phrases to alleviate some language barriers between participants and those individuals they may converse with during their experience. As noted by one participant "*better communication among all participants*" (P1) would increase information and understanding gained through international experiences. Furthermore, it is also recommended that funding for international travel in universities be increased so students can more readily participate. It is further recommended that if funding is available at the university level, students be educated regarding those possibilities. Students should be aware of the times and costs anticipated for any international travel so they understand possible barriers.

As found in the findings, there is a need to prepare participants more fully for international experiences. This study showed that participants had definite needs to be addressed prior to their international experience in Mexico. As one participant stated they were *"concerned about traveling internationally and not being able to communicate or understand them*" (P7). Main trends from the research indicated that students needed to rectify language barriers and find money for international travels. There is a need to develop experiences about the anticipated culture, language, and environment where the international experience will take place. This may benefit students engaging in an international experience. It is recommended that classes preparing students for international travel be more involved with the above defined areas. This may alleviate both problems and hesitation felt by the students.

In recent research Irani, Place, Lundy, & Friedel (2004) showed that students with little or small prior international experiences and awareness can cause barriers to be formed towards international experiences. That research also showed that educational efforts can aid by transcending those barriers if done gradually to gain trust through the student(s). The findings of this study support that research, and it is recommended that further research be completed in this area.

Additional research needs to be conducted to determine students' perceptions about agricultural practices in an international setting. Further research is needed to understand students' perceptions and to investigate the barriers outlined in this research. Such studies would provide a basis to understand barriers faced by students to foster international experiences. Changes in perception and attitude may allow for a more active participation in international agriculture experiences and a more global perspective of agriculture.

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THE IMPORTANCE OF EMPLOYABILITY SKILLS AS PERCEIVED BY THE EMPLOYERS OF UNITED STATES' LAND-GRANT COLLEGE AND UNIVERSITY GRADUATES

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Abstract

The purpose of this study was to analyze the perceptions of employers of land-grant college graduates regarding knowledge, skills, and dispositions needed for entry-level positions in the agricultural sector. Overall, it was perceived that possessing interpersonal, communication, technological, and technical skills was important for land grant colleges' graduates. It was recommended that land-grant colleges and universities examine their existing curricula and make changes in order to address the acquisition of these skills.

Introduction

The United States leads the world in agricultural productivity and research. According to "Reinventing Agricultural Education for the year 2020" (a visioning and planning initiative of the National FFA Organization, 1999), the United States' leading position in agriculture "lies in part, because of its infrastructure for developing and delivering technology, including agricultural education programs and the land-grant college system." Agriculture is the nation's largest employer with more than 22 million people working in some phase from growing food and fiber to selling it at the market place. According to Harris (1989), today's agribusiness environment consists of sophisticated customers in a world beset with intense competition, razor thin profits, and rapidly changing production and business technologies (p.39). In order to improve the academic and technical skills of the future workforce, academic institutions and corporations joined in partnerships (Lankard, 1995). These joint collaborations have huge implications for agriculture. If land-grant colleges strive to prepare its graduates for entry-level positions in the global workforce, it would lead to a stronger economy. In order for land-grant college graduates to compete in today's highly competitive workforce, they must equip themselves with the requisite knowledge, skills and dispositions (Lankard, 1995). The W.K. Kellogg Foundation (1994) in a report entitled *Visions of Change in Higher Education* encouraged land-grant universities to reexamine their academic programs in agriculture for relevance in relation to today's global agribusiness society.

Many American and international labor economists point out the importance of continuously developing skills beyond those required for a specific job, and they identify employability skills that enable individuals to prove their value to an organization as the key to job survival. The volume of major studies undertaken in the past two decades to identify and describe employability skills underscores their criticality (Askov and Gordon 1999; Murnane and Levy 1996). Employability skills are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace (SCANS 1991). They are necessary for career success at all levels of employment and for all levels of education. Adequate employability skills are needed by practically all workers in the agricultural field.

Conceptual Framework

In May 1990, the Department of Labor commissioned a comprehensive study to determine how well schools prepare young people for the work force. Under the leadership of former Secretary of Labor, Lynn Martin, the Secretary's Commission on Achieving Necessary Skills (SCANS Report), was momentous in that it was the first time American businesses were given a platform to clearly communicate to educators what students needed to know to be successful in the workplace. The SCANS Report outlined and examined the demands of the nation's workplace and concluded that more than half of American youth leave school without the knowledge or foundation required to find and hold a good job. The SCANS Report "caused quite a stir in education, as school boards, administrators, and teachers were shown that they

simply were not teaching the nation's students what they needed to know in order to be prepared for global workforce of the 21st century" (SCANS, 1991).

One objective of the report was to describe the necessary functional and enabling skills that society must offer to every child by age 16 (SCANS, 1991). The SCANS staff conducted studies of cognitive science research literature related to the importance of learning in context, met with cognitive scientists, and subsequently advocated the teaching of skills within the functional context of the workplace. This represented what the commission termed the most radical change in educational content since the 20th century (Workplace Know, 2003). The SCANS report consisted of a three-part foundation component and five workplace competencies. The three foundation skills were Basic Skills, Thinking Skills, and Personal Qualities. Additionally, the report provided five competencies that effective workers must posses: Resources, Interpersonal Skills, Information, Systems, and Technology.

Three Part Foundation

Basic Skills

Reading

Employees will have to **read** well enough to understand and interpret diagrams, directories, correspondence, manuals, records, charts, graphs, tables, and specifications. Without the ability to read diverse sets of materials, workers cannot locate the descriptive and quantitative information needed to make decisions or to recommend courses of action. "Reading identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary; and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers" (Workplace Know, 2003).

Writing

Most jobs will call for **writing skills** to prepare correspondence, instructions, charts, graphs, and proposals, in order to make requests, explain, illustrate, and convince. Writing "communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; includes, where appropriate, supporting documentation, and attends to level of detail; and checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation" (Workplace Know, 2003, and Radahakrishna and Bruening, 1994).

Mathematics

Mathematics and **computational skills** are also essential. Virtually all employees will be required to maintain records, estimate results, use spreadsheets, or apply statistical process controls as they negotiate, identify trends, or suggest new courses of action. Most individuals cannot leave their mathematics behind them in school. "Mathematics approaches practical

problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events" (Workplace Know, 2003).

Listening

Very few people will work alone. More and more work involves listening carefully to clients and co-workers and clearly articulating one's own point of view. Today's worker has to **listen** and **speak** well enough to explain schedules and procedures, communicate with customers, work in teams, understand customer concerns, describe complex systems and procedures, probe for hidden meanings, teach others, and solve problems. "Listening receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose" (Workplace Know, 2003).

Thinking Skills

Creative Thinking

Creative thinking uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.

Decision Making

Individuals use their decision-making skills to solve problems by selecting one course of action from several possible alternatives. Decision-making skills are also a key component of time management skills. Almost any decision involves conflicts or dissatisfaction. The difficult part is to pick one solution where the positive outcome can outweigh possible losses. **Decision-making "**specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives" (Workplace Know, 2003).

Problem Solving

Problem solving is a natural part of everyday life. Most of the situations in life are so familiar that one does not even consider them to be problems. The more advanced society becomes the more complex problems one will face on a daily basis. **"Problem solving** recognizes that a problem exists, identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it" (Workplace Know, 2003, and Andelt, Barreet, and Bosshamer, 1997).

Knowing How to Learn

Educational psychology studies increasingly show high-achieving students know what needs to be learned and how to learn it. While making those kinds of self-assessments may sound simple and something most college students could do, many psychology professors find their

students are not self-aware enough to conduct them. **Knowing how to learn** involves being aware of "learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies" (Workplace Know, 2003).

Reasoning

Reasoning "discovers a rule or principle underlying the relationship between two or more objects and applies it in solving the problem. For example, using logic to draw conclusions from available information, extract rules or principles from a set of objects or written text; apply rules and principles to a new situation, or determine which conclusions are correct when given a set of facts and a set of conclusions" (Workplace Know, 2003).

Personal Qualities

Individual Responsibility

Individual Responsibility involves exerting "a high level of effort and perseverance toward goal attainment, working hard to become excellent at doing tasks by setting high standards, paying attention to details, working well, and displaying a high level of concentration even when assigned an unpleasant task" (Workplace Know, 2003).

Self-Esteem

Self-esteem is a crucial component to ensure success in life. Low self-esteem leaves one vulnerable to being taken advantage of by others. However, building self-esteem is impossible for most people when they have no strategy for improvement. Self- esteem increases one confidence and allows one to respect one's own wishes by believing "in own self-worth and maintaining a positive view of self; and knowledge of one's own emotional capacity and needs how to address them" (Workplace Know, 2003).

Sociability

Sociability "demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and on-going group settings. Sociability involves asserting one's self in familiar and unfamiliar social situations; relating well to others; responding appropriately as the situation requires; and taking an interest in what others say and do" (Workplace Know, 2003).

Self-Management

Self-management is a useful technique to assist individuals with disabilities, including autism spectrum disorders, to achieve greater levels of independence in vocational, social, academic and recreational activities. Self-management is a procedure in which people are taught to discriminate their own target behavior and record the occurrence or absence of that target behavior (Koegel, & Parks, 1995).

Integrity

Integrity refers to a person's tendency to be honest, dependable, trustworthy, and reliable. Integrity is an extremely important quality of workers. **Integrity or honesty** is when one is "faced with making a decision or exhibiting a behavior that may break with commonly-held personal or societal values; understanding the impact of violating these beliefs and codes on an organization, self, and others; and choosing an ethical course of action" (Workplace Know, 2003, and Blezek and Dillon, 1991).

Five Workplace Competencies

Resources

By using resources, one learns how to manage time, money, materials, space, and staff. Managing time involves, goal-related activities, ranking them in order of importance, allocating time to activities, and understanding, preparing, and following schedules. Managing money involves preparing budgets, including making cost and revenue forecasts; keeping detailed records to track budget performance; and making appropriate adjustments. Resources involve managing human resources assessing knowledge and skills, distributing work accordingly, evaluating performance, and providing feedback (Workplace Know, 2003).

Interpersonal Skills

Competent workers in high-performance workplaces need to use interpersonal skills so they can work on teams, teach others, serve customers, lead, negotiate, and work well with people from culturally diverse backgrounds. "Participating as a member of a team involves working cooperatively with others and contributing to group efforts with ideas, suggestions, and effort. Exercising leadership communicates thoughts, feelings, and ideas to justify a position, encourage, persuade, convince, or otherwise motivate an individual or group, including responsibly challenging existing procedures, policies, or authority. Negotiating to arrive at a decision involves working toward an agreement that may involve exchanging specific resources or resolving divergent interests. Cultural diversity involves working well with men and women and with people from a variety of ethnic, social, or educational backgrounds" (Workplace Know, 2003).

Information

Competent workers in the high-performance workplace need to use information so they can acquire and evaluate data, organize and maintain files, interpret and communicate, and use computers to process information. "By acquiring and evaluating information you identify a need for data, obtain the data from existing sources or create them, and evaluate their relevance and accuracy. Organizing and maintaining information helps to process, and maintain written or computerized records and other forms of information in a systematic fashion. Interpreting and communicating information involves selecting and analyzing information and communicating the results to others using oral, written, graphic, pictorial, or multimedia. Individuals in today's workforce must be able to acquire, organize, analyze, and communicate information with the use of computer systems" (Workplace Know, 2003).

Systems

Workers in the high-performance workplace must have an understanding of social, organizational, and technological systems. Understanding systems leads one to "know how social, organizational, and technological systems work and operate effectively." (Workplace Know, 2003).

Technology

Employers in the high-performance workplace demand the use of technology to select the appropriate equipment and tools, apply technology to specific tasks, and maintain and troubleshoot equipment (Workplace Know, 2003).

Purpose and Objective

The purpose of this study was to analyze the perceptions of employers of land-grant college graduates regarding knowledge, skills, and dispositions needed for entry-level positions in the agricultural sector. The objective was to:

- Describe the level of importance of knowledge, skills, and dispositions needed by land-grant university graduates for entry-level positions within the agricultural industry.

Methodology

The population for this study consisted of 57 exhibitors representing 37 different government and corporate organizations at an agricultural career expo at an 1890 land-grant university. This list was obtained from the career expo program. For this study, a survey was adapted from a study conducted by Graham (2001). The validity of Graham's instrument was established by means of content and face validity. Brown (1983) defined content validity as "the degree to which items on a test representatively sample the underlying content domain" (p. 487). Brown recommended using expert judges as one means of establishing content validity. For Graham's study content validity was established by a panel of 10 different representatives from various agricultural disciplines. The reliability of the instrument was established with a pilot test of Arkansas industry representatives.

The survey instrument for this study consisted of four sections. Section one was designed to gauge the opinion of employers regarding the level of preparation of land-grant college graduates in relation to their interpersonal skills, communication skills, computer skills, character skills, and technical competency. Section two of the study was designed to gauge the opinion of employers regarding to the level of importance of basic work-place knowledge, skills, and abilities for entry-level jobs. Section three was designed to rate the importance of various life experiences in relation to land-grant college graduate's potential career success. Section four was designed to rate the future growth areas that employers feel will impact or change

agriculture for the next 5-10 years. This research article will focus upon section two of the study.

For this study a mixed-mode survey methodology was employed combining traditional mailings with e-mail surveying (Dillman, 2002). In recent years, there has been a trend toward using multiple methods to collect data because some individuals respond more quickly to one survey method versus another. Other reasons for using a mixed-mode method of surveying include concerns in trying to reduce nonresponse error and cost. Additionally, issues of coverage error are of great concern when using more traditional unimodal methods. Some individuals in today's society may be contacted easier by mail, others by telephone, personnel visits, and lastly by e-mail or Internet mode (Dillman, 2002).

Even though the instrument had preestablished levels of reliability, the researchers of this study conducted a post-hoc reliability test at the conclusion of data collection on each section of the survey instrument. Chronbach's alpha was used as the reliability measure for this study. The benefit of the alpha is that the computer print out gives you a clue as to which items are not contributing to the measure. Nunnally, (1967) suggested that 0.5 to 0.6 would be high enough in the early stages of research. The 0.8 measure is commonly used. Measurements of 0.9 might not be high enough where precision is needed. Chronbach's alpha reliability coefficients for the survey were as follow: Section One = 0.94, Section Two = 0.92, Section Three = 0.85 and Section Four = 0.91.

An initial letter informing the exhibitors of the survey was sent by traditional mail. The letter contained instructions on how to answer the survey, which was conducted by e-mail. Respondents were asked to verify their correct e-mail address if different from the one stated in the letter by sending the correct one electronically to the researchers. Those who preferred a traditional mail were allowed the option. One participant indicated that they would prefer a traditional mail survey; the other surveys were done electronically. Exactly one week after the initial mailing the full survey was sent to each administrator by e-mail with instructions. By the end of one week, 15 surveys had been received. After the week had passed a reminder e-mail was sent, and by the end of this week five more responses had been received. After one week a full survey packet was mailed to all non-respondents through traditional mail. By the end of this week the survey yielded four more responses. Finally follow-up phone calls were made to all non-respondents in order to yield a maximum return rate. Twenty-four surveys were received for a final return rate of 42%. In order to control for non-response error, Miller and Smith (1983) recommended comparing early to late respondents. Research has shown that late respondents are often similar to non-respondents, no significant differences were found in this study on these questions. Readers of this study are cautioned about generalizing the results of this study to a wider population.

Findings

For the following section readers should interpret the findings using the following Indicators: 1.0 – 1.49 = Unimportant, 1.50 – 2.49 = Somewhat Important, 2.50 – 3.49 = Important, 3.50 – 4.49 = Very Important, and 4.50 – 5.0 = Extremely Important.

In Table 1 employers felt that team work and dedication were extremely important, and that the following skills were very important: decision making, problem solving, organizational skills, leadership, initiative, creativity, appearance, etiquette, global awareness, and being open-minded. Additionally employers also felt that management skills were important in the work force.

Table 1

Interpersonal Skills

Interpersonal Skills	Mean	SD
1. Teamwork	4.58	0.50
2. Dedication	4.50	0.51
3. Appearance	4.25	0.74
4. Creativity	4.17	0.82
5. Decision Making	4.08	0.97
6. Organizational Skills	4.08	0.97
7. Leadership	4.08	0.97
8. Etiquette	4.08	0.65
9. Open-Minded	4.08	0.78
10. Problem Solving	4.00	0.83
11. Initiative	4.00	0.93
12. Global Awareness	3.75	0.85
13. Management Skills	3.25	1.11

Scale: 1 = Unimportant, 2 = Somewhat Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

Table 2, employers felt that understanding instructions, listening, and verbalizing were extremely important in the work force. Employers also felt that telephone, technical writing, creative writing, and presentation skills were very important in the work force, and they also ranked a second language as important.

Table 2

Communication Skills

Communication Skills	Mean	SD
1. Understanding Instruction	4.67	0.48
2. Listening	4.67	0.48
3. Verbalizing	4.67	0.48
4. Telephone	4.00	0.72
5. Presentation Skills	3.92	1.06
6. Technical Writing	3.58	0.97
7. Creative Writing	3.50	1.35
8. Second Language	2.67	1.58

Scale: 1 = Unimportant, 2 = Somewhat Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

In Table 3, respondents felt that presentation graphics, accounting systems, and internet access and use were extremely important when entering the work force. Employers also felt that word processing and spreadsheets skills were very important. Moreover, the following skills were just important: database and CAD.

Table 3

Computer Skills

Computer Skills	Mean	SD
1. Spreadsheets	4.25	1.19
2. Word Processing	4.08	1.14
3. Internet access & use	3.75	1.19
4. Accounting Systems	3.58	1.47
5. Presentation Graphics	3.50	1.35
6. Database	3.42	1.28
7. CAD	2.50	1.29

Scale: 1 = Unimportant, 2 = Somewhat Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

In Table 4, employers ranked the following character skills as extremely important when entering the work force: honesty, dependability, and integrity.

Table 4

Character Skills

Character Skills	Mean	SD
1. Dependability	4.58	1.14
2. Honesty	4.50	1.14
3. Integrity	4.50	1.14

Scale: 1 = Unimportant, 2 = Somewhat Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

As shown in Table 5, respondents felt that technical competency in the careers of social science, mathematics, and agricultural sciences were very important. Respondents ranked physical science, biological science, and humanities as important when entering the work force.

Table 5
Technical Competency

Technical Competency	Mean	SD
1. Mathematics	3.92	0.78
2. Social Sciences	3.75	0.94
3. Agricultural Sciences	3.75	1.11
4. Physical Sciences	3.25	1.33
5. Biological Sciences	2.83	1.17
6. Humanities	2.75	1.33

Scale: 1 = Unimportant, 2 = Somewhat Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

Conclusions

Based upon the finding of this study the following conclusions were made:

1. Concerning interpersonal skills, employers felt that team work and dedication were extremely important, and that the following skills are very important: decision making, problem solving, organizational skills, leadership, initiative, creativity, appearance, etiquette, global awareness, and being open-minded. Given the high value placed upon the aforementioned interpersonal skills perhaps employers would like to see these skills incorporated more into college agricultural curricula, given the highly competitive nature of agribusiness.
2. In relation to communication skills, employers felt that understanding instructions, listening, and verbalizing are extremely important in the work force. Employers also felt that telephone, technical writing, creative writing, and presentation skills are very important in the workforce, they also ranked a second language as important. Given the need to be able to communicate effectively in the global agribusiness market, perhaps this is an area that land grant universities should place great emphasis upon in their existing curricula.

3. Employers indicated that technology skills are greatly needed by individuals in today's agribusiness society, with this in mind land grant universities should perhaps infuse technological competencies into the academic preparation of their students in order to make them more competitive, when compared to their international counterparts.

4. In relation to character skills, employers felt that the following skills are extremely important when entering the work force: honesty, dependability, and integrity. Given the recent corporate scandals that have impacted American corporations, perhaps this is a skill set that should be focused upon greatly by land-grant universities.

5. Relating to technical competency, employers felt that technical competency in areas such as social science, biological science, agricultural science, and mathematics are very important. Respondents ranked physical science, biological science, and humanities as

important when entering the work force. With this finding in mind perhaps employers are starting to see the need for graduates who are better rounded, and possess both a technical agricultural background and comprehensive liberal studies foundation which provides individuals with a more global view of society.

Recommendations

Based upon the aforementioned conclusions the following recommendations are made:

1. Considering the importance of interpersonal and character skills as seen by employers, land-grant universities should consider having student's to take a course in agricultural leadership, which are already offered currently in many agricultural and extension education programs.

2. Given the heavy importance placed upon possessing technological skills by employers, land-grant universities should revise all curricula to require all students to complete a course in technology with an emphasis upon office and business applications.

3. Land-grant universities should consider increasing the existing technical and liberal studies content of their respective curricula in order to increase the overall knowledge base of their graduates.

Implications

Given the importance placed upon the various employability skills cited in this study, land-grant colleges should consider doing a reexamination of their existing programs in order to ensure that they are preparing highly employable graduates.

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THE INFLUENCE OF AGENT/CLIENT HOMOPHILY ON ADULT PERCEPTIONS ABOUT EXTENSION'S QUALITY OF SERVICE

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Abstract

Extension should continually ascertain clientele's satisfaction with its services. In the environment of increased accountability, it is paramount that extension's customers are satisfied with the service being delivered. According to Bonstingl (1992), an organization must first focus on their clients and providers because synergy plays a role between them. Rogers (2003) indicated when agent and client have similar characteristics, "the communication of new ideas is likely to have greater effects in terms of knowledge gain, attitudes formation and change, and overt behavior change." The purpose of this study was to determine whether agent and client homophily affect perceptions about the quality of service. Using Florida Extension clientele as the study population, we merged survey data from Extension clients who completed a customer satisfaction survey with data on agents' characteristics. A total of 1,466 clients and 157 agents were included in this study. When client's and agent's race were different, there was a small but significant decrease in satisfaction score for service than if their race was the same. Similarly, as the educational difference increased, clients were less likely to be satisfied with the service Extension provided. The findings show the need for strategies to overcome "the problem of heterophily."One strategy is to increase efforts to recruit minority agents. Another strategy is to increase attention in professional development seminars to building skills in teaching clients who differ in one or more ways from the agent.

Introduction

There are a number of reasons why Extension should continually ascertain clientele's satisfaction with their services. For one, the *National Research Agenda* calls for studies that "examine appropriate evaluation models to meet the needs of stakeholders" (Osborne, n.d., p. 14). Similarly, an external panel of stakeholders advised Extension to focus on reporting its achievements and associated impacts (ECOP LAC, 2005). Many state Extension programs have surveyed their constituents for input needs, service, satisfaction, awareness of Extension and funding support (Lindquist, 1987; Radhakrishna, 2002; Suvedi, Lapinski, & Campo, 2000; Verma & Burns, 1995).

In the environment of increased accountability (Ladewig, 1999), it is paramount that extension's customers are satisfied with the service being delivered. Comer, Birkenholz and Stewart (2004) indicated that Extension ought to examine itself as an industry instead of a government organization. Internally monitoring programs via performance indicators would indicate a businesslike approach in evaluating the services Extension renders. One way to collect data for accountability and to measure clients' opinions concerning the quality of services is through customer satisfaction surveys.

Customer satisfaction surveys can assist extension in identifying clientele perceptions of program quality in a specific county, region or state as well as provide stakeholders information on the impacts of Extension in these areas. ECOP (2007) recommended instruments be utilized that permit clients to communicate their value of Extension. Dissatisfaction might reduce impacts, and hinder efforts to increase awareness of the organization as the educational outreach component of the land grant university.

Seevers (2000) reported that an indicator of a strong organization is the matching of the ideals of the organization and the performance of its employees. Most agents believe their profession has a significant effect on the lives of clients they serve (Scott, Swortzel & Taylor, 2005). Consequently, these agents refer to the impact of their educational programs in terms of knowledge gain and practice change. It is important that evaluations continue in order to measure the quality and impact of Extension programming (Kistler & Briers, 2003). Radhakrishna (2002) reported that customer satisfaction surveys also have supplied a large amount of data to county agents in order to enhance program delivery and address client's needs better. Despite the usefulness of these surveys, the linkage of agents' performance and experience with clients' satisfaction levels appears to be weak (Terry & Israel, 2004), which may subvert internal drivers of quality programming.

Florida's customer satisfaction survey began in 1988 as a response to the Florida Board of Regents' recommendation that Extension measure the quality of service received by residents (Florida Board of Regents, 1988). This annual survey functions as Florida Extension's chief measure for assessing the performance of the organization (Terry & Israel, 2004). Customer satisfaction surveys also allow for better understanding of services by Extension from the clients' perspective (Radhakrishna, 2002).

Previous studies have found that the large majority of Extension clientele are satisfied with the service provided by the organization (Radhakrishna, 2002; Rennekamp et al., 2001; Terry & Israel, 2004). In Missouri, growers, producers and officers of Extension Councils were satisfied with the service Extension provided (Habeeb, Birkenholz & Weston, 1987). Florida residents, also, exhibit high levels of satisfaction with the quality of Extension services and, when they had an opportunity to use the information, a large majority had their problem solved or need met (Haile & Israel, 2005; Israel & Galindo-Gonzalez, 2009).

Although a number of studies have examined client satisfaction, little attention has been devoted to factors that might differentiate between satisfied and dissatisfied clients (cf., Terry & Israel, 2004). Agent's race, gender and education level might impact the service that Extension provides to clients (Rogers, 2003). In Texas, Hispanic participation in programs was higher when agents had a minority background (Saldaña et al., 2005). In this study, client satisfaction is evaluated across the state of Florida using a customer satisfaction instrument. The instrument included questions regarding client's experience with the quality of service Extension provides, as well as demographic items. This research can clarify the effects of gender, race and education on the service that Extension provides clientele.

Theoretical Framework

Bonstingl (1992) delineates how the Total Quality Management (TQM) framework can be relevant to reform in educational programming. Bonstingl refers to his recommendations for education as the "Four Pillars of Total Quality Management" (Total Quality Management was first developed by W. Edwards Demming in the late 1940's).

The first principle was *Synergistic Relationships*. According to Bonstingl (1992), an organization must first focus on their clients and service providers because synergy plays a role between them. Productivity and accomplishments are increased when educators' experience and aptitude are combined. The second principle was *Continuous Improvement and Self-evaluation*, which focused on constantly improving the educational experience. Self-evaluation referred to the extent the organization and educator reflected on their efforts and how those efforts impacted clientele. The third principle was *A System of Ongoing Process*. Individuals and groups must see the organization as a system and the duties involved as on-going. Quality should be continually reexamined to identify and correct defective procedures that prevent clients from succeeding. The fourth principle was *Leadership*. Administrators are accountable for the success of TQM. Educators who focused on subject matter and standards instruction can offer the leadership, structure, and instruments necessary for constant progress in learning.

Customer satisfaction in Extension addresses the potential of Bonstingl's (1992) synergistic relationships occurring with agents and the clientele participating in their programs. Continuous improvement is attended to through customer satisfaction surveys that gather information on how to provide a more in-depth educational experience for users. Customer satisfaction has been an ongoing process in Extension for many years, beginning with work by Bennett (1982) and Warnock (1992). Extension administrators are accountable for customers' levels of satisfaction, and provide the tools and organization needed for learning (ECOP, 2008).

An important element of Rogers' Diffusion of Innovations (2003) framework is when the change agent and client are similar. Rogers identified homophily as the extent two or more people are similar in regards to socioeconomic status, education, values, et cetera. Individuals tend to opt for others who are similar in makeup when given the opportunity to choose their associates (Rogers). Communication is more effective for both agent and client when homophily is present. Rogers (p. 19) indicated when agent and client "are alike in personal and social characteristics the communication of new ideas is likely to have greater effects in terms of knowledge gain, attitudes formation and change, and overt behavior change." This framework underscores both the value of homophily in the transfer of information from agents to clients and the challenge facing Extension as its clientele becomes increasingly diverse.

Purpose and Objectives

The purpose of this study was to determine whether agent and client homophily affect perceptions about the quality of service. Specifically, the variability of agent/client race, gender, age and educational levels were studied to assess their impact on clientele satisfaction with Extension's services.

Methodology

Florida Extension clients were the population in this study. A sample of Extension clients was produced from a process of collecting the names, addresses, phone numbers, and features of the information (Israel, 2000). Sign-in sheets for visitors to the Extension office were established and provided over a 30-day period. Phone contacts were recorded in telephone logs. Lastly, agents provided registration lists for planned programs (e.g., demonstrations, field days, and workshops).

Self-administered mail surveys, using Dillman's (2007) Tailored Design Method, were used to collect data on measures of service quality, outcomes and client attributes between 2003 and 2007. The self-administered survey is sent to a sample of clients who were selected from the population that have attended a workshop or seminar, called the Extension office, or visited the office in order to solicit feedback about their experiences. The survey was implemented using a sequence of contacts – pre-letter, survey and cover letter, reminder post card, and second survey and cover letter to nonrespondents. A total of 2,808 useable surveys were pooled for the analysis and the response rate (Response Rate 1 [RR1], AAPOR, 2004) was 60.0%.

The 2-page survey instrument included questions on the following: overall customer satisfaction with the services provided by Extension, clientele's satisfaction on four dimensions of quality, outcomes of the use of Extension service, and demographic attributes of the respondents. Participants were asked to rate four items measuring dimensions of service quality based upon a five-point Likert-type scale (1 = *Very Dissatisfied*, 5 = *Very Satisfied*). These included:

1. How satisfied or dissatisfied are you that the information was up to date and accurate?
2. How satisfied or dissatisfied are you that the information was delivered in time to be useful?

3. How satisfied or dissatisfied are you that the information was relevant to your situation?
4. How satisfied or dissatisfied are you that the information was easy to understand?

The four items were combined into a service quality index (calculated as the items' mean). Based on procedures recommended by Carmines and Zeller (1978), the index met criteria for unidimensionality (a single factor was extracted from principle components analysis with an eigenvalue of 3.238) and Cronbach's alpha was .918. The instrument also included questions on participants' age, gender, race and ethnicity (white, non-Hispanic or non-white), age, level of education attained (high school or less, high school or GED, some college, college degree, and graduate or professional degree).

We merged survey data from Extension clients who completed a customer satisfaction survey with data on agents' characteristics to investigate the association among level of service received by clients based upon their gender and race being equal to the agents', age and difference in education between the client and agent. Data on Extension agents was obtained from organizational records. A total of 1,466 clients and 157 agents were included in this study. Analysis of matched (i.e., both agent and client data present) and unmatch (i.e., only client data present) records showed that the matched data included more clients who attended a planned program (versus those who made an office visit or telephone call). There also were different rates of matching based on race, age, residence, employment, and the number of times Extension was used during a year. The mean for the service quality index was nearly identical, however, for the matched and unmatched data (4.540 and 4.560, respectively). Given the incomplete matching, differences in the following analysis should be treated as exploratory, rather than definitive. The data analysis used descriptive statistics, bivariate correlations, and multi-variate analysis to test for significance. Finally, agent experience (measured in years) was included as a control variable because experience can moderate the effects of differences between agents and clients this has been shown to affect client satisfaction (Terry & Israel, 2004).

Findings

Clients had very positive opinions of the quality of their experience with Extension, as shown by the mean of 4.54 (out of 5) for the index in Table 1. This means that a large majority of clients reported that they were "satisfied" or "very satisfied" with all aspects of Extension's service delivery. Note that this constrained the potential explanatory power of the homophily variables in the following analysis because service was so highly regarded (and by implication the variance of the index was limited).

In addition, the means for same gender and same race show that 62.6% and 79.6% of clients had the same gender or race as the agent who provided educational information, respectively. The average age difference was 6.36 years because many clients were retired and, hence, older that agents who are still in the workforce. Agents also averaged 1.7 educational units more than clients. Given that Extension requires a baccalaureate degree and many agents have a masters degree, the level of heterophily is expected. Finally, agents averaged over 12 years of experience.

Table 1
Descriptive Statistics for Same Gender, Same Race, Age and Educational Differences on Service Quality (N = 1,466)

	n	*M*	*SD*
Service Quality Index	1435	4.540	.638
Same Gender	1466	.626	.484
Same Race	1379	.796	.403
Age Difference	1266	6.360	17.213
Educational Difference	1316	1.733	1.168
Agent Experience	1380	12.500	10.237

Next, the correlation between the service quality index and measures of homophily are examined. A significant association existed between clients' and agents' race. Clients were more likely to be satisfied with the service provided by Extension when the agents' and clients' race were identical (Table 2). Likewise, as the difference in educational attainment between the client and agent increased, the service quality index decreased. No statistically significant correlation existed with service for same gender, age difference, or agent experience. Additional analysis revealed that clients who were 15 years or more younger than the agent had lower service index scores than clients who were of similar age or older than the agent (r=-.067, p=.018)

Table 2
Intercorrelations of Same Gender, Same Race, Age and Dissimilar Education on Service Quality

	n	*r*	*p*
Same Gender	1435	-.001	.984
Same Race	1351	.089	.001
Age Difference	1238	.046	.109
Educational Difference	1289	-.068	.014
Agent Experience	1352	-.008	.779

Multiple regression was used to assess the net effect of each measure of homophily on client's perception of service quality. In addition, we used the binomial measure of age difference (where the client is 15 years or more younger than the agent =1) in the regression model. The multiple regression model was significant, with F = 4.03, p = .001. The model provided further support that clients were more satisfied with the level of service Extension provided when clients' race was the same as the agent's. When client's and agent's race were the same, there was a .143 increase in satisfaction score for service than if their race was different. However as their difference in education increased, clients were less likely to be satisfied with the service Extension provided. The regression model also continued to show that clients who were much younger than the agent had lower service index scores than clients who were of similar age or older than the agent. Clients differing in gender from the agent were not significant factors in assessing whether the clients were satisfied with Extension's service. Overall, the model accounted for a very modest (1.7%) portion of the variance of satisfaction of service that Extension provides.

Table 3
Summary of Multiple Regression Analysis of Extension's Service Quality Index on Homophily Variables (n=1,197).

Variable	*B*	*SE B*	*β*	*p*
Intercept	4.486	.062	--	
Same Gender	.019	.039	.014	.634
Same Race	.143	.047	.088	.003
Age Difference	-.126	.060	-.061	.035
Educational Difference	-.032	.016	-.059	.043
Agent Experience	.000	.002	.003	.992

Note. $R^2 = .025$; Adjusted $R^2 = .017$.

Conclusions/Implications/ Recommendations

This study focused on the impacts of same gender, same race, age and differing education levels of clients and agents. First, we found that Extension clients reported high ratings of service delivery, and consequently the explanatory power of the homophily variables was limited. Same gender was not significant in determining clientele satisfaction of Extension services. Our findings differed from Davis (2006) in that gender did not have an impact on perceptions about program delivery. Agent experience also was not significantly associated with ratings of Extension's services. Florida Extension appears to be accomplishing its mission of providing quality service to clientele regardless of their gender and the experience level of the particular agent. These results indicate Florida Extension was focused on the synergistic relationships (TQM) of extension agents and clients specifically on these variables. Regardless of gender and agent experience, clientele believed Florida Extension was providing quality programs.

On the other hand, we found that clients' satisfaction of the service they receive from Extension was related to their race and the agents' being the same. Also, clients' satisfaction of the service received from Extension was related to their education being similar to that of agents, as well as with the age difference between client and agent. Given that clients with a college degree are less likely to be satisfied with the service Extension provided when their agent had acquired a PhD than when the agent had only a baccalaureate degree, this indicates that educational differences could be the genesis of communication barriers among clients and agents. Likewise, age differences where clients were much younger than agents might also reflect communication difficulties. The results coincide with earlier studies on change agent and client homophily. Rogers (2003) found clients are more apt to adopt a practice change when diffused by a change agent who is similar in make-up to the client. Does this coincide with research on the discrepancy of race in adult education (Brown, Cervero, & Johnson-Bailey, 2000; Kumashiro, 2001)? Though the answer to this question is not clear, it does point to the importance of considering strategies for overcoming "the problem of heterophily."

One strategy, suggested by Saldaña et al. (2005), to address this issue is to increase efforts to recruit minority-status agents to coincide with the minority population. Given that Hispanics

account for 32%, and blacks 25% of the total population in Florida (Florida Statistical Abstract, 2007) and Extension employs relatively few Hispanic (3%) or Black agents (6%) (C. Simmons, personal communication, September 30, 2008), the current workforce has limited opportunities to "rub shoulders" with colleagues from different backgrounds and cultures. While increasing the number of minority agents makes sense as one piece in a comprehensive, long-term strategy, this logic does not extend to educational differences by which Extension should only hire agents with baccalaureate degrees to match education levels in the population; instead it reinforces Rogers' (2003) argument to develop greater empathy among Extension agents for their clientele. In-depth professional development can address this issue.

Thus, a second strategy for Extension is to increase attention in professional development seminars to building skills in teaching clients who different in one or more ways from the agent. Likewise, Extension should train current and future agents in intercultural communication strategies. This could be accomplished by faculty orientations for new hires, and professional development seminars for current agents. This objective could be achieved via face-to-face training or distance learning modules. ECOP (2008) recommended Extension recruit the best diverse personnel possible in order to provide superior programs for all clientele. The professional training describe above can help Extension realize the continuous improvement process of Total Quality Management (Bonstingl, 1992).

In summary, we found that annual customer satisfaction surveys have proven feasible and can be administered in a sample of counties. Moreover, the cost of this accountability tool is not expensive compared to the potential impacts and benefits to the organization, as has been the case in Florida where the survey results have provided adequate information concerning how well Extension was addressing the needs of legislators' constituents. Our advocacy for customer satisfaction surveys for measuring program quality is balanced by the recognition that Extension also must be accountable for the relevance and impact of its programs (ECOP, 2005; Ladewig, 1999).

Given that we found differences in client perceptions about Extension's quality of services, our results support Berrio and Henderson's (1998) recommendation that surveys be constructed to assess customer perceptions of services and outcomes provided by Extension. Administrators and program evaluation specialists in each state should join resources and construct a shared instrument for assessing customer satisfaction and appropriate procedures for every state Extension program (Radhakrishna, 2002). Further steps can be taken to insure agents have "buy-in" to the notion of customer service. Developing a client-directed focus leading to client-directed tactics may provide an increased level of satisfaction and loyalty to Extension (Berrio & Henderson, 1998).

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AN ASSESSMENT OF RECRUITMENT AND TRAINING PRACTICES USED IN A NATIONAL FFA CAREER DEVELOPMENT EVENT

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Abstract

This study examined recruitment and training practices utilized by teams participating in the 2005 National FFA Livestock Career Development Event. Participants responded to Likert type items related to recruitment and trainings practices used in preparing for the competition. Recruitment factors that were more highly correlated with team emblem based on total team score were: 1) competitiveness, 2) coachable, and 3) consistency. The training practices that were more highly correlated with team success were: 1) workout with college teams, 2) attend livestock judging camps, and 3) attend practice contests. When using recruitment factors to predict team success at the 2005 National FFA Livestock Career Development Event, it appears that competitiveness and good study skills are significant predictors of team emblem. Looking at training practices which can predict team emblem, working out with college teams and video judging practice both yield significant results. Examining these recruitment and training practices can provide valuable information to teachers who struggle with recruitment and retention of career development team members. These factors will also be useful to beginning and pre-service teachers who have responsibilities to train these teams.

Introduction

The mission of the National FFA Organization (FFA) is to develop youth through premier leadership, personal growth and career success (National FFA, 2006). One way FFA achieves this goal is by providing opportunities for students to showcase the knowledge and skills they have acquired in agricultural classes through a competitive venue. Career Development Events (CDE's) add a real world experience for students involved in agricultural education. Since 1928, FFA has worked to create CDE's that demonstrate the meaningful connections between classroom instruction and real-life scenarios (National FFA, 2006). Career development events build on what is learned through agricultural education classes and FFA activities.

These events are designed to help prepare students for careers in agriculture. Classroom instruction is reinforced as students demonstrate their content knowledge and skills in a competitive setting. Career development events test the abilities of individuals and teams in 23 major areas of agricultural instruction ranging from livestock evaluation to floriculture (National FFA, 2006). In 2006, National FFA offers 23 different career development events and one career development activity. Regardless of the event or activity an FFA member participates in, the student will be challenged and motivated from the experience of competing as an individual and as a team member.

By examining the recruitment and training practices used by teachers to prepare for career development events, many useful practices can be adopted by beginning and pre-service teachers. Recruitment of students can be a challenging task even for experienced teachers. Dyer and Breja (2003) identified several challenges in recruitment of students into agriculture programs. Scheduling conflicts, finding time to recruit, student involvement in other activities, and competition from other programs were a few of the challenges identified.

FFA activities seem to be a viable recruitment tool for teachers. Scanlon, Yoder, Hoover, and Johnson (1989) found that the top recruitment practices perceived to be most effective by teachers were participation in career development events, FFA activities, and awards programs. Myers, Dyer, and Breja (2003) noted that FFA was an effective strategy in recruiting students. Career development events were recognized as one of the more valuable recruitment techniques. Especially when agricultural education programs have a tradition of success in certain career development events, recruiting students to be a part of a winning tradition is much easier than trying to recruit students to participate in a brand new event.

Training FFA members for competitions or career development events as we refer to them today is one of the major responsibilities of all agricultural education teachers. A study conducted by Flanagan, Kieth, and Lockaby (2000) addressed problems faced by beginning agricultural education teachers in preparing for career development events. Beginning teachers in this study were asked to rate their perceived level of importance of career development events. This group of beginning teachers rated livestock judging as the most popular CDE in their state. By examining training practices used by teachers who have qualified for a national CDE, hopefully sharing this information can relieve some of the pressures felt by our new and beginning colleagues.

Theoretical Framework

Agricultural judging competitions for high school students can be traced back in history before FFA was formed. According to Tenney (1977), agriculture teachers started holding judging contests soon after the Smith-Hughes Act of 1917 brought the subject of agriculture into public schools. The first state-wide contests were held in 1919 in the states of Alabama and Virginia. The first national judging competition designed specifically for secondary agriculture students was held at the 1925 National Dairy Show in Indianapolis, Indiana.

In May 1926, C. H. Lane, former Chief of the U.S. Agricultural Education Service, went to Kansas City, Missouri to meet with officials of the American Royal Livestock and Horse Show about establishing national livestock judging contests for secondary agriculture students. In November of 1926, the National Congress of Vocational Agriculture Students held judging contests at its first convention (Tenney, 1977). Only two years later, the National FFA Organization met for the first time in 1928. The judging contests continued to be sponsored by the National Congress of Vocational Agriculture Students until 1936 (Tenney, 1977).

Judging contests continued to be a part of the National FFA Convention, but were not officially recognized as a part of the FFA program until they were renewed in 1947, after being discontinued because of World War II. Prior to 1946, contestants and teams were rated on a numerical scale and awards were given to the winners (England, 1996). After 1946, the Danish system of awards was adopted for National FFA Contests. The Danish system of awards recognizes contestants and teams with rankings of gold, silver, or bronze emblem.

The National FFA Organization has conducted judging contests at the National Convention since 1947. From 1928 until 1998, the National FFA Convention and competitions were held in Kansas City, Missouri. From 1999 to 2005, the national convention and CDE's were held in Louisville, Kentucky and were move to Indianapolis, Indiana beginning in 2006. According to White and Christiansen (1978), the contest program has been worthwhile in regard to educational benefits received by participants. White and Christiansen (1978) also state that educational values learned in FFA contests carried over to future endeavors of contest participants.

More contemporary literature confirms the benefits of participation in FFA contests. Vaughn, Kieth, and Lockaby (1999) found that competing in FFA provides students with a place for recognition and helps motivate students to set goals and complete tasks. Rutherford, Townsend, Briers, Cummins and Conrad (2002) found members of the FFA typically posses more leadership skills than non-FFA members. Agricultural education and FFA hold strong to the "learn by doing" method of instruction. Not only is this type of instruction practiced in the classroom and laboratory of agricultural science programs, it is supported and reinforced by activities such as Career Development Events (CDE's) and Supervised Agricultural Experience (SAE's) (Cepica, Dillingham, Eggenberger, and Stockton, 1988). Career Development Events (CDE's), formerly known as judging events are competitive FFA events that develop technical knowledge, judgment, reasoning, and sportsmanship (Cepica et al., 1988).

Career Development Events are a classic example of experiential learning. Conrad and Hedin (1981) defined experiential education as "educational programs taking place outside of the traditional classroom where students are in new roles featuring significant tasks with real consequences, and where the emphasis is on learning by doing with associated reflection" (p.11). The benefits of experiential education were realized in the late nineteenth century. The movement gained support from such prominent men as Johan Pestalozzi and Frederick Froebel who argued that the most effective learning could only be achieved through doing (Weatherford and Weatherford, 1987).

Weatherford and Weatherford (1987) noted several reasons why experiential programs such as FFA and 4-H can help adolescents develop life skills. Experiential education incorporates key elements of life skills such as problem solving, critical thinking, inter- and intra- personal skills, and connecting youth with adults and the community. An effective feature of experiential education is that it incorporates the cognitive, affective, and psychomotor spheres of learning (learning by doing). The model of learning provided by experiential education is consistent with the stage of human growth, because it allows for learning to occur appropriately for the learning style and developmental level of the individual.

The benefits of participation in livestock judging have been documented for years. Livestock judging has been associated with developing a variety of employer-preferred life skills such as communication, problem solving, and decision making (Boyd, Herring, & Briers, 1992). McCann and McCann (1992) reported that the livestock judging activity provides youth with an opportunity to develop necessary life skills. Participation on livestock judging teams is credited with improved critical thinking skills, enhanced self-confidence, and development of better team skills (Smith, 1989). According to Rusk (2002), when youths learn the process of evaluation through livestock judging, these same skills can be integrated into other real life situations.

As of 2006, existing literature on the National FFA Livestock CDE is limited. Holt (1929) conducted a study of the training of vocational agriculture judging teams. He looked at the training of livestock and dairy judging teams in Illinois and Pennsylvania. Holt found that experience in teaching vocational agriculture was not of major importance; however, he also found that a successful judging team usually required a training period of two or more years. Holt concluded that even though a small percentage of judging coaches participated in judging contests in college, a high number of those who did participate in college judging events trained successful judging teams. Holt found that many judging coaches used pictures, charts and lantern slides to train their judging teams. The coaches in Holt's study indicated that practice and drill was the most significant factor in training their judging teams (England, 1996).

Herren (1982) conducted a national study on the factors associated with success of participants in the National FFA Livestock Judging Contest. His study revealed that teams who spent more time preparing for the contest tended to score higher. Advisors who had fewer years of teaching experience tended to have higher scoring teams. Teams from states with higher populations of cattle, swine and sheep tended to score higher in the contest. Teams that participated in more contests prior to the national event tended to score higher and teams whose advisors had previous experience in the contest area performed at a higher level. Herren also concluded that teams consisting of members selected by the advisors tended to score higher.

England (1996) investigated training methods of National FFA judging teams. It was determined that 77.5% of the advisors who trained livestock judging teams had previous experience in the livestock CDE. Experience was also a large success factor in England's study. Over 48% of students who were on a national FFA judging team were seniors in high school and reported having previous experience. Additionally, most successful judging teams competed in two or more practice contests prior to the national judging contest. Some livestock judging teams reported participating in six to eight practice contests prior to the national event. England also reported that actual specimens, individual instruction, and books were the most popular training methods utilized by successful judging teams. Livestock judging team advisors placed more emphasis on video training than books or resource people.

Purpose and Objectives

The purpose of this study was to determine the recruitment and training practices used in preparing the participants of the 2005 National FFA Livestock CDE and how these recruitment and training practices influenced team emblem based on total team score. The following research questions were addressed:

- What recruitment factors have the strongest relationship with team emblem?
- What training practices have the strongest relationship with team emblem?
- Which recruitment and training practices are the best predictors of team emblem?

Methods and Procedures

A descriptive-correlational survey design using a researcher-designed questionnaire was used to collect data for this study. The researcher used the 16 recruitment and selection factors along with the 15 training procedures generated from a Delphi study to develop the survey instrument that was distributed to the participants on the 2005 National FFA Livestock CDE. The Delphi technique is a group process designed to solicit expert responses toward reaching consensus on a particular problem, topic, or issue (Delp, Thesen, Motiwalla, & Seshadri, 1977).The panel of experts consisted of agricultural education teachers who were the FFA advisors of teams that finished in the top five places of the National FFA Livestock CDE over a six year period (1999-2004) while the National FFA Convention was held in Louisville, KY.

The instrument was reviewed for content and face validity by four agricultural education faculty members. A pilot test was conducted to determine the reliability of the instrument. Seventeen undergraduate students in agricultural education and communications who had participated in livestock judging competitions participated in the pilot study. Reliability was determined on the Likert-type scales for recruitment and training practices resulting in a Cronbach's alpha of .89 and .77, respectively. No changes were made to the instrument as a result of the pilot test.

The questionnaire asked the students to rate the characteristics that led to them being selected as a member of the livestock judging team. The participants were given a four point Likert-type scale with responses of: not important =1, slightly important = 2, important = 3, very

important = 4. Participants rated the importance of: 1) academic ability, 2) grade point average, 3) desire to learn, 4) speaking ability, 5) competitiveness, 6) confidence, 7) listening skills, 8) consistency, 9) time to devote, 10) hard working, 11) commitment, 12) team player, 13) coachable, 14) good study skills, 15) positive attitude, and 16) goal oriented.

The questionnaire also asked participants to rate the training practices utilized in their preparation for the 2005 National FFA Livestock CDE. The participants were given a four point Likert-type scale with responses of: not beneficial =1, slightly beneficial = 2, beneficial = 3, most beneficial = 4. The subjects rated the benefit of: 1) learning livestock anatomy, 2) video judging practice, 3) taking notes for oral reasons, 4) live animal practice, 5) attend practice contests, 6) viewing videos of prior contests, 7) study handouts, 8) workout with college livestock teams, 9) give oral reasons, 10) livestock terminology review, 11) attend livestock shows, 12) learn the breeds of livestock, 13) judge pictures of livestock, 14) attend livestock judging camps, and 15) visit farms and ranches.

The population for this study was the participants of the 2005 National FFA Livestock CDE. In order to qualify for the National FFA Livestock CDE, teams must win their state FFA Livestock CDE which usually requires qualifying through a district or area contest format. This census study encompassed teams from 43 states with a total of 170 participants. Using the census method to collect data eliminated the threat of sampling error. Forty states consisting of 155 individuals responded to the survey yielding a 93% response rate.

Information packets regarding the study where mailed to the agricultural education teachers of the teams that registered to participate in the 2005 National FFA Livestock CDE. Each packet contained a letter explaining the purpose of the study and directions for administering the survey. The agricultural education teachers were asked to administer the survey to their students. This standard administration technique helped to control the threat of variation among testing conditions. The packets also contained four blank surveys with a postage paid envelope. Nineteen teams responded by mail to the initial request. The researcher followed up with the non-responders at the National FFA Livestock CDE and secured the surveys from 21 additional teams.

Descriptive statistics were run to determine means and standard deviations on all interval scale variables. Correlations were used to determine the relationship between recruitment and training practices and team emblem earned at the 2005 National FFA Livestock CDE. Hinkle (2003) defines correlation as the nature, or extent, of the relationship between two variables. Pearson product-moment correlation = r was used because it is the most commonly used correlation coefficient in behavioral sciences (Hinkle, 2003). The researchers used the Davis Convention (1971) to describe the magnitude of the correlations. Stepwise linear regression was used to describe associations among gold, silver, and bronze emblem teams in recruitment and training practices. According to Hinkle (2003), the stepwise solution is a variation of the forward solution. Predictor variables are entered one at a time but can be deleted if they do not contribute significantly to the regression when considered in combination with newly entered predictors. An alpha level of .05 was set *a priori* in order to determine statistical significance.

Findings

This study sought to determine the relationship between recruitment and training practices used in preparing for the 2005 National FFA Livestock CDE and team emblem earned at the competition. Means and standard deviations were used to describe recruitment factors that led to participants being members of their FFA livestock judging team. Recruitment factors receiving the highest mean scores were: hard working, $M = 3.65$; $SD = .57$, commitment $M = 3.57$; $SD = .61$, and goal oriented at $M = 3.50$, $SD = .66$. Factors receiving the lowest mean scores were: time to devote, $M = 3.26$; $SD = .79$, academic ability, $M = 2.89$; $SD = .79$, and grade point average, $M = 2.70$; $SD = .84$. Recruitment factors were rated as: 1 = not important, 2 = slightly important, 3 = important, 4 = very important.

When looking at techniques used to train individuals for the National FFA Livestock CDE, means and standard deviations were used to summarize survey results. The highest means for training practices used were: live animal practice, $M = 3.89$; $SD = .36$, giving oral reasons, $M = 3.73$; $SD = .59$ and attending practice contests, $M = 3.61$; $SD = .64$. Training practices receiving the lowest mean scores from survey participants were: video judging practice, $M = 2.54$; $SD = .85$, attending livestock judging summer camps, $M = 2.51$; $SD = .98$, and judging pictures of livestock, $M = 2.41$; $SD = .82$. Training practices were rated as: 1 = not beneficial, 2 = slightly beneficial, 3 = beneficial, 4 = very beneficial.

The first research question looked at the recruitment factors that had the most impact on team emblem. The recruitment factors posting the highest correlations were: competitiveness, $r = .342$, coachable, $r = .251$ and consistency, $r = .246$. According to Davis (1971), competitiveness would be a moderate correlation with coachable and consistency being categorized as low correlations. The lowest correlation was desire to learn = .064 which would be described as negligible. Table 1 shows the correlations between recruitment factors and team emblem earned at the National FFA Livestock CDE.

Table 1

Correlations between recruitment factors and team emblem

Recruitment factors	Pearson's *r*
Competitiveness	.342
Coachable	.251
Consistency	.246
Confidence	.211
Positive attitude	.201
Team player	.200
Good study skills	.199
Time to devote	.198
Commitment	.196
Speaking ability	.178
Listening skills	.143
Hard working	.136
GPA	.130
Academic ability	.121
Goal oriented	.120
Desire to learn	.064

The second research question examined the relationship between training practices and team emblem earned at the 2005 National FFA Livestock CDE. Working out with college livestock judging teams posted a moderate correlation of $r = .324$. Attending summer camps, practice contests, and live animal practice produced low correlations related to team emblem. Several negative correlations existed including: livestock anatomy, video judging practice, taking notes for oral reasons, terminology review, judging pictures and visiting farms and ranches. Table 2 displays the correlations between training practices and emblem.

Table 2

Correlations between training practices and team emblem

Training practices	Pearson's *r*
Workout with college teams	.324
Attend summer camps	.185
Practice contests	.132
Live animal practice	.125
Attend livestock shows	.098
Give oral reasons	.083
Videos of prior contest	.059
Handouts	.035
Learn the breeds of livestock	.001
Taking notes for reasons	-.003
Visit farms and ranches	-.007
Livestock anatomy	-.024
Judge pictures	-.073
Video judging practice	-.093
Terminology review	-.100

The final research question addresses which recruitment and training practices are the best predictors of team emblem at the 2005 National FFA Livestock CDE. Stepwise linear regression was used to predict recruitment and training practices that would lead to a gold emblem finish. The regression model shows a significant β level for competitiveness and good study skills. Participants who reported competitiveness as being an important recruitment factor posted a *B* value of 57.26. Those students who reported good study skills as being important as far as their recruitment to the team had a *B* value of 34.39. Table 3 shows the regression model.

Table 3

Regression analysis for recruitment factors predicting team emblem

Variable	*B*	SE *B*	β	*t*	Sig.
Competitiveness	57.26	13.97	.317	4.10	.000
Good study skills	34.39	14.13	.188	2.43	.016

Note. R^2 = .164. Adjusted R^2 = .152. F = 14.48

The same process was used to analyze training practices that would predict team success. The regression model pinpoints two training practices that can significantly impact a team's total score at the 2005 National FFA Livestock CDE. Working out with college livestock judging teams appears to have a positive impact while using video judging practice shows a negative impact. According to the model, teams that reported working out with college livestock judging teams as being a beneficial training practice had a B = 45.41. On the other hand, teams that stated video judging practice was beneficial in terms of training their team had a B value of -32.09. Table 4 shows the regression analysis for training practices.

Table 4

Regression analysis for training practices predicting team emblem

Variable	*B*	SE *B*	β	*t*	Sig.
Workout with college teams	45.41	11.07	.314	4.10	.000
Video judging practice	-32.09	11.79	-.208	-2.72	.007

Note. R^2 = .149. Adjusted R^2 = .137. F = 12.78

Working out with college livestock judging teams was the most beneficial training practice according to the regression analysis. Video livestock judging practice although significant posted a negative B value which would place those participants who used this as their major source of training at a disadvantage in the 2005 National FFA Livestock CDE.

Conclusions

Participants of the 2005 National FFA Livestock CDE believed they were recruited to participate on their chapter's livestock CDE team because they were: hard working, committed, and goal oriented. When correlating the relationship between recruitment factors and team emblem earned at the competition, competitiveness, coachable, and consistency are the three recruitment factors that are the most highly correlated with team success. These same participants viewed live animal practice, giving oral reasons, and attending practice contests as the most valuable training experiences for their team. When evaluating the benefits of training

practices, working out with college livestock judging teams, attending summer livestock judging camps, and attending practice contests were more highly correlated than any other training practices.

When making a connection to existing literature, Herren's study from 1982 examined factors associated with success of participants in the National FFA Livestock Judging Contest. Herren found that teams who practiced more for the contest tended to score higher. This study adds support to Herren's claim by posting a 3.89 mean score for live animal practice being very beneficial as well as a 3.73 for giving oral reasons and a 3.61 mean score for attending practice contests.

England's study (1996) reinforces live animal practice as a viable training method. She concluded that actual specimens, individual instruction, and books were the most popular training methods for most successful judging teams. The advisors in England's study also stated they would like more videotapes and contest materials to help train their judging teams. In the beginning stages of CDE training, video practice is essential for developing basic knowledge and skills. We see in this study, at the national level, video judging practice had a negative correlation with team emblem based on total team score.

When using regression analysis to predict team emblem, two recruitment factors yield statistically significant results. Competitiveness and good study skills were the best predictors of team emblem. Agriculture education teachers could utilize a personality assessment instrument such as Clifton StrenthFinders to assess competitiveness among potential judging team members. Teachers could use a variety of methods to determine students study skills, from examining grades to contacting former teachers of the students trying out for their livestock CDE team. Implementing these two simple analyses of competitiveness and good study skills could be very beneficial to all agricultural educations teachers involved in training career development event teams.

Two training practices yielded significant results in the regression analysis. Working out with college livestock judging teams is a good predictor of team emblem. This training practice gives students the opportunity to interact with students who have been in their shoes. Most college livestock judging teams are made up of former FFA members who have participated in a national livestock evaluation competition. Video livestock judging practice is on the other end of the spectrum actually having a negative impact on team emblem. Further research is needed to investigate the various methods used in training career development teams. Some training practices work well for some teachers and others are not as successful. This could be a geographic factor with some states having an advantage with more readily available classes of livestock to evaluate. In some cases video practice may be the only way to gain experience for some teams in certain areas of the event.

Implications and Recommendations

The findings from this study have implications for all agricultural education who train career development event teams. Any insight provided to teachers related to recruitment and training of students will surely relieve some of the day to day stress agricultural education

teacher's face. Career development events are an excellent way to showcase knowledge and skills gained from agricultural education classes. Continued research is needed to explore all facets of the career development event system. By researching this important topic, our colleagues in the field will benefit from knowing the techniques used by successful programs and hopefully continue to build this important component of their total FFA program.

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EFFECT OF AN INTERNSHIP ON PRE-SERVICE EXTENSION EDUCATORS' AND MENTORS VIEWS OF THE COOPERATIVE EXTENSION SERVICE

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Abstract

Internships have become an important part of the college experience for students as a way to learn and develop talents in a certain area. This study sought to determine if participation in an internship with the Cooperative Extension Service changed the interns and mentors overall perception of the Cooperative Extension Service. The views were measured in terms of a traditional or contemporary view of Extension using a semantic differential scale. The interns were measured at three points in the internship experience: pre, post, and post-post. Measurements for the mentors were taken pre and post internship. The interns' views moved from a contemporary view to a more traditional view while the mentors went from strongly traditional view to a more neutral view. This change may be attributed to the internship experience and the interaction between the interns and mentors.

Introduction/Theoretical Framework

Internships have become an important part of the college experience for students, allowing them to try different careers before actually entering the workforce (Patterson, 1997). A 2005 study by the National Association of Colleges and Employers reported, on average, more than three out of five college hires had an internship experience (Jones, 2006). Internships have benefits for both students and organizations. Students bridge the gap between classroom learning and the real world (Gault, Redington, & Schlager, 2000) while companies view interns as potential full-time employees (Stone & McLaren, 1999). Research shows that undergraduates benefit by gaining self confidence and developing expertise (Henry, Rehwaldt, & Vineyard, 2001). Knouse, Tanner, and Harris (1999) found internships improved the opportunity to have a job at graduation and increased academic performance. This increase in academic performance may be attributed to time management, communication skills, self-discipline, initiative, and a better self-concept developed during the internship.

Organizations, specifically mentors, benefit from hosting interns. Inkster and Ross (1995) found mentors or supervisors may be transformed in subtle ways when hosting an intern. These transformations may include increase knowledge of developments in the field, renewed enthusiasm for career, and increased creativity (Inkster & Ross). Stone and McLaren (1999) found by hosting an intern, mentors find their ideas and attitudes refreshed and are exposed to new innovative ideas. Beard (2007) reported a lower turnover rate for new hires that had internship experience and increased confidence in a professional work setting. Internship experiences have been found to increase the awareness of interns about other career options previously not considered (Kerka, 1989; Neapolitan, 1992; Scott, 1992) and viewed as important ways of preparing students for future careers.

In studying alumni and their early career success, Gault et al. (2000) found alumni with internship experiences had significantly earlier career advantages, better job preparation, found employment quicker, and were found to have higher extrinsic success. Taylor (1988) found employees with an internship experience received higher starting salaries, were more satisfied with their new job, and were viewed to be more qualified for jobs than those students without an internship experience. Organizations who host interns may view them as potential employees, inexpensive help, and a source of new, fresh ideas (Cannon & Arnold, 1998; Ross & Elechi, 2002; Stone & McLaren, 1999).

The importance of this study is supported by the National Research Agenda of Agricultural Education and Communication for 2007-2010. The study falls under research priority number 4 for the Extension and Outreach objective which concerns the appropriate non-formal educational delivery systems for the preparation of Extension educators (Osborne, 2007). An internship experience with Cooperative Extension is a cumulative, full-time experience for students preparing for careers as Extension educators at some universities (Scheer, Ferrari, Earnest, & Connors, 2006). Other states with Extension internship experiences are simply allowing undergraduates to test out a career option. Extension educators describe this as a "win-win" situation, where undergraduates are hired at minimal expense for the summer months and experience the career of an Extension agent in exchange for extending the reach of Extension educators (Rogers, Mason, & Cornelius, 2001).

The theoretical framework of this study is based on David Kolb's model of experiential learning. Kolb (1984) offers a working definition of experiential learning as "Learning is the process whereby knowledge is created through the transformation of experience" (p. 38). Another definition is when the learner is in direct contact with the realities being studied (Zanville & Markwood, 1982). Much of the internship literature cites experiential learning as the framework or basis of the internship experience (Beard, 2007; Inkster & Ross, 1995, 1998; Parilla & Hesser, 1998; Stedman, Rutherford, & Roberts, 2006; Stone & McLaren, 1999; Zanville & Markwood, 1982).

The experiential learning theory is built upon six ideas shared by numerous scholars in the human learning and development field including Dewey, Lewin, and Piaget (Kolb, 1984; Kolb & Kolb, 2005). These six ideas are: (1) Learning is best conceived as a process, not in terms of outcomes, where ideas are formed and reformed. (2) Learning should be relearning where students' ideas are brought out, examined, and mixed with new refined ideas. (3) Conflicts help to drive the learning process. (4) Learning involves the whole person, i.e. thinking, feeling, perceiving, and behaving. (5) Learning is a process of combining new experiences with old experiences and vice versa. (6) Creating new knowledge is a process of learning (Kolb; Kolb & Kolb).

Smith (2001) discusses Kolb's experiential learning model as having four points which are concrete experience (CE), observation and reflection (RO), forming abstract concepts (AC), and testing in new situations (AE). A person can begin at any point of the model during the learning process. Figure 1 graphically displays Kolb's experiential learning process model. Kolb (1984) describes the four points as:

> They [learners] must be able to involve themselves fully, openly, and without bias in new experiences (CE). They must be able to reflect on and observe their experiences from many perspectives (RO). They must be able to create concepts that integrate their observations into logically sound theories (AC) and they must be able to use these theories to make decisions and solve problems (AE) (p. 30).

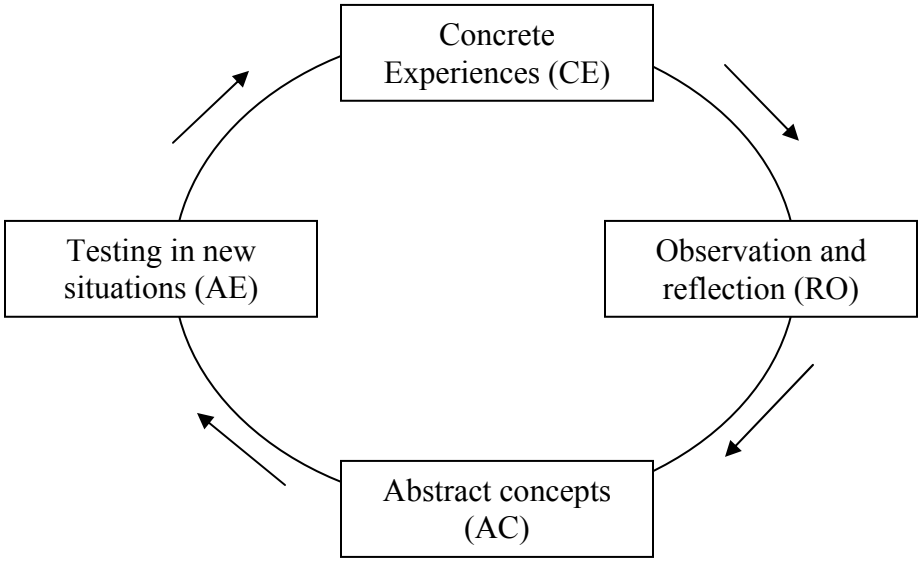

Figure 1. *Kolb's model of experiential learning adapted from Smith (2001)*

Roberts (2006) summarizes various experiential learning models as all being cyclical in nature. Roberts describes the experiential learning cycle as a process that requires the learner to be focused, followed by interaction and reflection, the developing of generalizations, and finally the testing of those generalizations.

Purpose/Objectives

The purpose of this study was to describe changes in interns and mentors attitudes towards the Cooperative Extension Service during participation in an internship program.

The following objectives directed this study:

1. Describe the demographic characteristics of the interns and mentors.
2. Describe interns' attitudes toward the Cooperative Extension Service at various points during the internship experience.
3. Describe mentors' attitudes toward the Cooperative Extension Service at various points in the internship experience.
4. Compare interns' attitudes toward the Cooperative Extension Service to the attitudes of their mentors.

Methods/Procedures

The population consisted of 12 Cooperative Extension Service interns for the summer of 2007. The target mentor population consisted of 18 Cooperative Extension Service educators (mentors) with varying staffing assignments. Any county educator who interacted with the interns was asked to complete the post test assessment which ultimately yielded responses from

25 Extension educators. To participate in the program, both interns and mentors completed an application and were chosen thorough a selection process overseen by the State Extension office. Interns were selected through an interview process and placed in a county office for a paid, ten to twelve week internship. Due to the census population of the interns and mentors used in this study, inferential statistics were not used.

The researcher used a semantic differential scale instrument developed by Gruntmeir (1999) to collect quantitative data related to attitudes. Osgood, Suci, and Tannenbaum (1965) state a semantic differential scale is a reliable and valid way to measure attitude. The instrument consisted of 14 pairs of polar opposite words. Gruntmeir used a panel of experts and a pilot study to determine the validity and reliability of the word pairs. The researcher divided the word pairs on the instrument into two categories which represented two different views of Extension--traditional and contemporary. The instrument was modified slightly by reverse ordering six of the 14 instrument items to minimize bias. The reversed pairs were minimizing risk/taking risk, low tech/high tech, cautious/challenging, preserves the past/initiates change, controlled/autonomous, and rigid/flexible. Varimax rotation was used to determine the loadings of the word pairs in Gruntmeir's study. All pairs with loadings below 0.42 were eliminated from the original instrument leaving 14 on the final instrument.

Each question on the instrument had a possible score of one to seven. A score of four would indicate the respondent was neutral on the word pair; a score less than four would indicate the respondent favored the first term, while a score greater than four indicate the respondent favored the second term. The instrument was administered to the interns three times in the experience: 1) before beginning the internship (pre-test), 2) at the completion of the internship (post-test), and five months after internship completion (post-post-test)**.** Interns were instructed to answer the questions on how they perceived the Cooperative Extension Service to be, not how it should be. Mentors also completed the Attitude toward Cooperative Extension Service instrument and were administered the questionnaire before the intern started the experience and at the completion of the intern's experience. As with the interns, Extension educators were asked to reflect on how they saw the Extension service, not an ideal Extension service. Mentors did not complete a post-post test assessment.

Results/Findings

Objective 1: Describe the demographic characteristics of the interns and mentors

Intern majors included agricultural communications, agricultural education, agricultural leadership, animal science, horticulture, human development and family science, nutritional sciences, dietetics and exercise, sociology, and plant science, representing three academic colleges and seven different academic departments. Nine of the twelve interns were female and three of the twelve interns had completed a bachelor's degree or were graduate students. Seven of the twelve interns reported no experience with Cooperative Extension prior to the internship.

The majority of the mentors had master's degrees and ranged in age from 26 years old to 60 years old with the average age being 45 years old. The majority had 4-H as part of their staffing assignment, followed by agriculture, family and consumer science, and rural and

community development. The mean length of time served as an Extension Educator was 14 years with a range of 3 to 33 years. More than eighty percent reported having mentored before, yet less than thirty percent reported having received formal training as a mentor.

Objective 2: Describe interns' attitudes toward the Cooperative Extension Service at various points during the internship experience

For the pre test, the responses favored seeing Extension in a traditional light. These included (with means in parentheses) rural (3.00) over urban, education (3.33) over facilitation, minimizing risk (3.67) over taking risk, grassroots initiatives (3.75) over top-down initiatives, and brainstorming (3.92) over structured analysis. In the post test, traditional services that were favored include minimizing risk (3.00), rural (3.08), education (3.33), simple (3.75), grassroots initiatives (3.83), generalization (3.92), and brainstorming (3.92).

The post-post test traditional services that were favored include rural over urban (2.50), education over facilitation (3.00), neutrality over advocacy (3.33), generalization over specialization (3.42), brainstorming over structured analysis (3.50), minimizing risk over taking risk (3.83), simple over complex (3.83), and grassroots initiatives over top-down initiatives (3.92).

Differences in means are shown in Table 1 for pre test versus post test. The word pairs education/facilitation, brainstorming/structured analysis, neutrality/advocacy, and rigid/flexible did not have a change in mean from pre to post test. The word pairs grassroots initiatives/top-down initiatives, rural/urban, and controlled/autonomous increased in mean from pre to post test. The remaining seven word pairs had a decrease in mean ranging from 0.33 to 0.83.

The differences in means from the pre test to the post-post test had a few increases and numerous decreases. The greatest increase in mean was 0.67 for the word pair controlled/autonomous. The differences in means for post test versus post-post test had six pairs with a decrease in mean that ranged from 0.25 to 0.84. Neutrality/advocacy had the greatest decline while isolation/collaboration had the smallest decrease. The increase in mean ranged from 0.08 to 0.83. The greatest gain was for minimizing risk/taking risk while simple/complex had the smallest increase.

Table 1

Differences in Means for Attitudes toward the Cooperative Extension Service for Interns

		μ	μ	μ	Difference	Difference	Difference
Traditional	*Contemporary*	Pre	Post	Post-Post	Pre-Post	Post – Post Post	Pre – Post Post
Rural	Urban	3.00	3.08	2.50	(0.08)	0.58	0.50
Education	Facilitation	3.33	3.33	3.00	0.00	0.33	0.33
Minimizing Risk	Taking Risk	3.67	3.00	3.83	0.67	(0.83)	(0.16)
Grassroots Initiatives	Top-Down Initiatives	3.75	3.83	3.92	(0.08)	(0.09)	(0.17)
Brainstorming	Structured Analysis	3.92	3.92	3.50	0.00	0.42	0.42
Controlled	Autonomous	4.00	4.33	4.67	(0.33)	(0.34)	(0.67)
Neutrality	Advocacy	4.17	4.17	3.33	0.00	0.84	0.84
Generalization	Specialization	4.25	3.92	3.42	0.33	0.50	0.83
Simple	Complex	4.58	3.75	3.83	0.83	(0.08)	0.75
Low Tech	High Tech	4.67	4.08	4.08	0.58	0.00	0.59
Cautious	Challenging	4.75	4.08	4.17	0.67	(0.09)	0.58
Preserves the past	Initiates Change	4.92	4.58	4.58	0.33	0.00	0.34
Isolation	Collaboration	5.50	4.92	4.92	0.58	0.00	0.58
Rigid	Flexible	5.58	5.58	5.33	0.00	0.25	0.25

Note. A lower mean favors traditional Extension Services while a higher mean favors contemporary Extension Services. A negative difference indicates a move to a more contemporary view, while a positive difference indicates a move to a more traditional view.

Objective 3: Describe mentors' attitudes toward the Cooperative Extension Service at various points in the internship experience

For the pre test, the mentors' responses favored the traditional services (with means in parentheses) of minimizing risk over taking risk (2.39), education over facilitation (2.78), grassroots initiatives over top-down initiatives (2.94), rural over urban (3.00), neutrality over advocacy (3.17), cautious over challenging (3.72), and generalization over specialization (3.94). Traditional services favored in the post test included (with means in parentheses) education (2.78), minimizing risk (3.00), rural (3.17), neutrality (3.22), grassroots initiatives (3.56), and controlled (3.72).

Table 2 shows the differences between pre and post test for the mentors on the attitude instrument. Grassroots initiatives/top-down initiatives had the largest increase (0.62) with pre-post test means of 2.94 and 3.56, respectively. The remaining five word pairs had a decrease in mean ranging from 0.22 to 0.34.

Table 2

Differences in Means for Attitudes toward the Cooperative Extension Service for Mentors (Pre-Post Test)

		μ	μ	Difference
Traditional	*Contemporary*	Pre	Post	Pre-Post
Minimizing risk	Taking risk	2.39	3.00	(0.61)
Education	Facilitation	2.78	2.78	0.00
Grassroots Initiatives	Top-Down Initiatives	2.94	3.56	(0.62)
Rural	Urban	3.00	3.17	(0.17)
Neutrality	Advocacy	3.17	3.22	(0.05)
Cautious	Challenging	3.72	4.00	(0.28)
Generalization	Specialization	3.94	4.22	(0.28)
Controlled	Autonomous	4.06	3.72	0.34
Rigid	Flexible	4.22	4.00	0.22
Low Tech	High Tech	4.39	4.17	0.22
Preserves the past	Initiates change	4.44	4.22	0.22
Brainstorming	Structured analysis	4.56	4.28	0.28
Simple	Complex	4.72	4.89	(0.17)
Isolation	Collaboration	5.11	5.11	0.00

Note. A low score favors traditional Extension Services; high score favors contemporary Extension Services. A negative difference indicates a move to a more contemporary view, while a positive difference indicates a move to a more traditional view.

Objective 4: Compare interns' attitudes toward the Cooperative Extension Service the attitudes of their mentors

There were five word pairs that fell into the traditional category throughout the internship and five word pairs were in the contemporary category throughout for the interns. Three words pairs went from contemporary to traditional while one word pair was neutral and went to contemporary. Large changes from contemporary to traditional occurred from pre to post test for the word pair simple/complex. A similar changed occurred for two word pairs from pre to post-post test. These were generalization/specialization which changed by 0.83 and neutrality/advocacy with a change of 0.84. From post to post-post test, the word pair neutrality/advocacy had a change of 0.84.

The mentor pre test had seven words that favored traditional services. On the post test, six word pairs were favored traditional. In terms of contemporary services, the pre test had seven word pairs. The post test had six word pairs favoring contemporary services. The post test had two word pairs that were deemed neutral with a mean of 4.00. They were rigid/flexible and cautious/challenging. Two word pairs switched sides. Controlled/autonomous went from contemporary to traditional while generalization/specialization went from traditional to contemporary. Two word pairs went neutral from pre to post test, one was contemporary, and one was traditional. A comparison of the interns' post-post test and mentors' post test means on the instrument is given in Table 3.

Table 3

Intern and Mentor Attitude Instrument Means Comparison

Traditional	*Contemporary*	Intern Post–Post Test *M*	Mentor Post Test *M*
Rural	Urban	2.50	3.17
Education	Facilitation	3.00	2.78
Neutrality	Advocacy	3.33	3.22
Generalization	Specialization	3.42	4.22
Brainstorming	Structured analysis	3.50	4.28
Minimizing risk	Taking Risk	3.83	3.00
Simple	Complex	3.83	4.89
Grassroots Initiatives	Top-Down Initiatives	3.92	3.56
Low Tech	High Tech	4.08	4.17
Cautious	Challenging	4.17	4.00
Preserves the past	Initiates change	4.58	4.22
Controlled	Autonomous	4.67	3.72
Isolation	Collaboration	4.92	5.11
Rigid	Flexible	5.33	4.00

Note. A low score favors traditional Extension Services; high score favors contemporary Extension Services.

Conclusions

Conclusions related to Objective 1

The interns represented a broad, diverse spectrum of students. They represented eight different academic departments on campus. They were upperclassmen and graduate students, many nearing the completion of their education. The population was mainly female and the College of Agricultural Sciences and Natural Resources was the most represented college. This broad and diverse group is an encouraging sign for the future of Cooperative Extension Service. If this group is representative of the applicant pool, there is great potential for Cooperative Extension to continually move forward.

Mentors participating in the internship program were experienced educators with Cooperative Extension Service and experienced mentors. They represented a diverse array of staffing assignments and were highly educated with the majority possessing a degree above a bachelor's degree. While the mentors had experience in mentoring interns, they lacked formal mentor training.

Conclusions related to Objective 2

At the beginning of the internship, the interns viewed the Cooperative Extension Service being more contemporary than traditional. At the conclusion of the internship, the interns' perception was equally divided among the traditional and contemporary services. However, the post-post test revealed that the interns continued to shift to a more traditional services view than contemporary. For many of the interns, this was their first experience with the Cooperative Extension Service. The internship experience had an effect on the interns' perception of the Cooperative Extension Service which is shown by the changes in mean. The mentors viewed Cooperative Extension as more traditional which may have affected the interns' perceptions, causing the shift to a more traditional services view. The internship experience caused the interns views to shift from an idealistic view to a realistic, firsthand view. Figure 2 graphically shows the changes the interns experienced at the three assessments during the internship for each word pair.

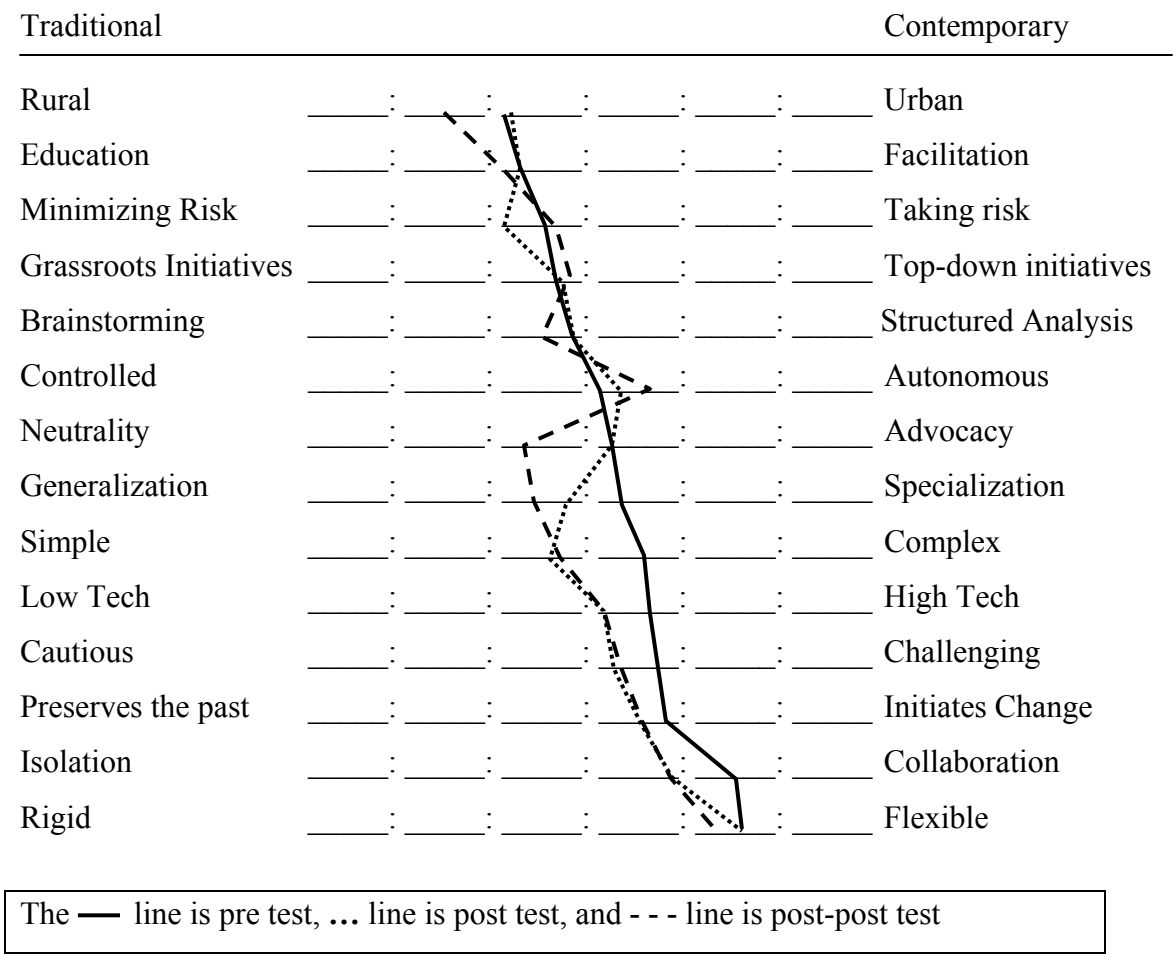

Figure 2. Intern attitudes toward Cooperative Extension Service at three assessment points.

Conclusions related to Objective 3

The mentors were equally divided in viewing the Cooperative Extension Service as being traditional and contemporary services for both the pre and post test. There was a shift from not as strongly traditional services from pre to post test. The shift towards being more neutral may be attributed to the experience as mentor and working with an intern. The interns viewed the Cooperative Extension as more contemporary, causing the mentors' to move to a more neutral outlook. The mentors may reassess their view and look at Cooperative Extension Service from a newer, fresher perspective and revive their desire to be a great educator. Figure 3 graphically shows the changes the mentors experienced at the two assessments during the internship.

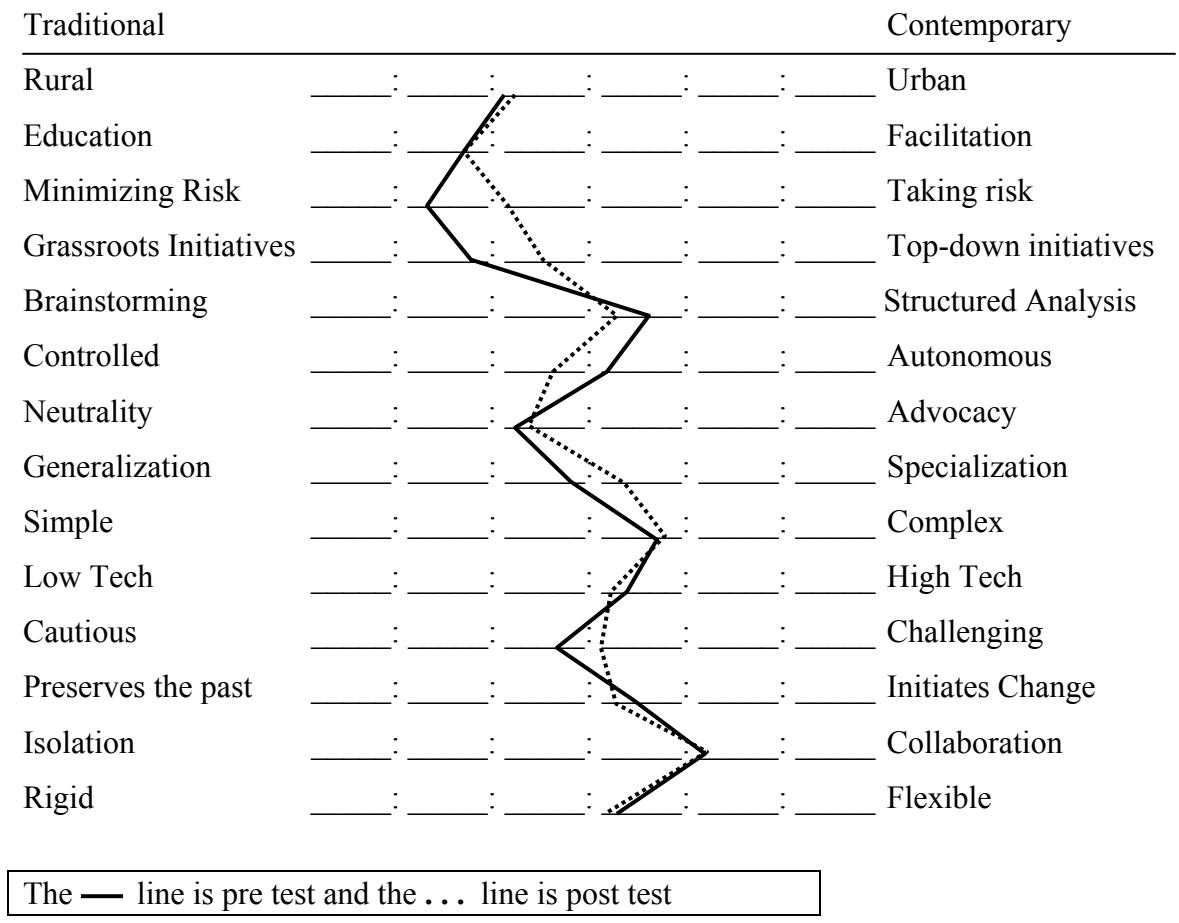

Figure 3. Mentor attitudes toward Cooperative Extension Service for two assessment points.

Conclusions related to Objective 4

There were similarities for both the interns and mentors attitudes with Gruntmeir's (1999) findings with experienced Extension Educators using the same instrument. Interns and mentors categorized eight word pairs similarly. This can be attributed to the interns being influenced or adapting the mentors' attitude and vice versa. There were however a few major differences for the word pairs of rigid/flexible, simple/complex, and controlled/autonomous. This can be

attributed to the interns' lack of experience working in Cooperative Extension in comparison to the mentors experience with the Cooperative Extension Service.

Implications/Discussion

The change in attitude toward traditional services (interns) and contemporary services (mentors) should not be viewed in terms of good or bad. Instead the change the internship experience may cause should be embraced. The learning, experiences, and growth occurred during the internship supports the six ideas Kolb refers to as the experiential learning theory is built upon. The internship experience affected both interns and mentors. To fully understand how Kolb's model is used in this experience, the interns need to be followed past the initial internship experience in order to see how the interns continually evolve and develop ideas about the Cooperative Extension Service. The experience will affect their attitudes toward Cooperative Extension Service as whether they view it as more traditional or contemporary.

If internships are able to influence possible educator's views, the experience will let potential employees know what Cooperative Extension is like versus their idealistic view without experience. Also the internship experience can influence current educator's views as shown by the change of the mentors in this study. The ability to determine an educator's views and see if their views change after interacting with interns is important. If change occurs at the educator level, it may have an effect on all Cooperative Extension Service.

The outcomes and success of a program cannot be determined without solid evaluation methods and instruments. Discussion with other states with Cooperative Extension Service internship programs did not yield a set evaluation method. By testing instruments, a standard evaluation method for Cooperative Extension Service internships might be developed, providing the potential for uniformity. A uniform evaluation system could allow the comparison of data from state to state, program to program. This concept is supported by the National Research Agenda for Agricultural Education and Communications (Osborne, 2007).

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AN EXAMINATION OF STUDENT PARTICIPATION IN NATIONAL FFA CAREER DEVELOPMENT EVENTS

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Abstract

The purpose of this study is to determine why students participate in National FFA Organization career development events and to examine factors related to their participation. A survey was completed by 2145 National FFA Organization members and by 206 National FFA Organization advisors and coaches. National FFA Organization members who participate in national career development events are generally pleased with the conduct of the events and find them valuable to their education. National FFA Organization members are trained for career development events primarily by their teacher. This training generally lasts between one and five hours per week and will most likely occur after normal school hours. Teachers and students in this study disagree as to the reason why members participate in national career development events. Teachers believe that the most important reason for participation is competition, but students indicate that the most important reason for participation is that the event relates to their career choice.

Introduction

National FFA Organization's [FFA] provide leadership and personal development opportunities for students enrolled in career and technical education. Students learn skills related to specific occupations and, in a broader sense, develop their technical literacy through exposure to the general concepts of business and industry. The finished product is a student's knowledge of the agriculture industry. The FFA proposes to add value to this product by improving a student's leadership ability, personal communication skills and personal work habits. The personal and professional development provided by the FFA is intended to assist them once they enter the workforce. For the student who is enrolled in agricultural education primarily for the purpose of providing agricultural literacy, the FFA provides the opportunity to experience all aspects of the industry.

In 2004, the National FFA Organization completed a five-year review process of the FFA career development events and found that a mechanism was needed to align CDE's with projected careers as they become available in the food, fiber and natural resources industry. Furthermore, the FFA needed to find ways to involve more middle grade students in career development events. The report also indicated a need to continue efforts to assist new teachers in improving overall participation in CDE's and to document the relationship between curriculum and career development events. The report further indicated a need to continue efforts to improve participation in CDE's by a diverse population of students enrolled in agricultural education (National FFA Organization, 2004).

This research project sought to examine one segment of the total FFA program – career development events [CDE's]. According to the National FFA Organization (2000), one of the most highly esteemed benefits of FFA membership is the connection established between the student and the agriculture industry. The career development events program is intended to provide students with the opportunity to practice skills learned in the classroom and on the job, but does it effectively meet both the FFA program's goals and the goals of individual FFA members? Are career development events meeting the career needs of FFA members?

Theoretical Framework

The purpose of this study is to determine why students participate in national career development events and to examine factors related to their participation in national career development events. In order to assess the effectiveness of career development events, the researchers conducted an evaluation study, and the theoretical base for it is derived from the CIPP model developed by Stufflebeam and Shinkfield (1985). The goal of the CIPP evaluation model is not to prove, but rather to improve programs (Stufflebeam, 2001). To accomplish program improvement, this model utilizes four core components, or types of evaluations – context evaluation, input evaluation, process evaluation, and product evaluation. The context evaluation component determines the needs of a specific program and helps to define the program's objectives. The input evaluation phase identifies resources needed by the program. The process evaluation answers the question, "How well has the program been implemented?"

The final evaluation phase examines the outcomes of the program to determine if the objectives have been met (Stufflebeam, 2003). The CIPP model is useful because it is relatively easy to organize the evaluation process around the four components (Worthen, Sanders, Fitzpatrick, 1997). This comprehensive model allows the context, input and process evaluations to take place while simultaneously waiting for the product evaluation (Payne, 1994). Because of the impact this model has on program administration, it is important to have both internal and external evaluators. This helps control bias in interpreting results (Stufflebeam, 2001).

To gather contextual data, the National FFA Organization has established a career development events advisory board to annually review and make recommendations regarding changes in the structure and operation of career development events. Every five years, the National FFA Organization completes a systematic and comprehensive review process of career development events to determine if they are congruent with the FFA mission, and that they are still relevant to technological advancements in the food, fiber, and natural resources industry (National FFA Organization, 2004). The National FFA Organization also gathers demographic data from participants during the career development events. This includes data about FFA members, coaches, and the schools, FFA chapters and communities where the school resides.

To gather input and process data, the National FFA Organization collects opinion data from member participants and their coaches during the career development events. Some of the data that might be collected from these opinion surveys includes information about the school curriculum in agricultural education, instructional materials used to prepare teams, and funding for CDE team preparation and travel to the national event. Informal observations by CDE event staff and national FFA staff are also valuable sources of data.

For many teachers, even beginning teachers, interacting with students through participation in FFA activities is an enjoyable part of the job of teaching (Talbert, Camp, and Heath-Camp, 1994). Although managing the FFA program is a demanding task (Mundt & Conners, 1999), one of the effective teaching responsibilities identified by Roberts and Dyer (2002) is to prepare students for participation in career development events.

Overall, FFA members believe that the FFA provides valuable assistance in helping students choose a career and that FFA programming also helps them reach certain education goals as well (Croom and Flowers, 2001). Those students who are involved in FFA activities and who choose to attend college are significantly more likely to earn a baccalaureate degree (Ball and Garton, 2002). Students who participate in a number of FFA activities including career development events complete their agricultural education program and tend to enter an agricultural occupation (Fraze and Briers, 1986; Bowen and Doerfort, 1989). However, Scanlon, Yoder, Hoover, and Johnson (1989) report that the essential practices perceived to be most effective by teachers in recruiting and retaining FFA members were participation in career development events, FFA activities, and awards programs. Rossetti, McCaslin, and Gliem (1996) found that FFA members reported that the reason why they chose to be a member was based on the organization's ability to help them achieve future career goals. The study further reports that a student's interest in FFA activities and programs and the enjoyment derived from them, and leadership skill development were major reasons for being a member. The National FFA Organization should develop new career development events based upon emerging student

interests and agricultural technologies. These recognition programs should be periodically reviewed to determine their effectiveness in motivating students (Shinn and Vaughn, 1993).

Purpose And Objectives

The purpose of this study is to determine what motivates students to participate in national career development events and to examine factors related to their participation in career development events. The specific research questions addressed by this study are:

1. What motivates students to participate in national career development events?
2. What are the perceptions of students regarding the conduct of the national career development events?
3. How are students prepared to participate in the national career development events?
4. Is there a difference between advisors' and students' perceptions of participation and preparation in career development events?

Procedures

The population for this study was the total number of registered participants in the career development events held at the 2003 National FFA Convention in Louisville, Kentucky. This population included both the FFA member participants and their coaches, and was selected because these individuals had advanced to the highest level of participation in this FFA program. The student survey was completed by 2145 FFA members and the teacher survey was completed by 206 adults who serve as the coach for a particular student or team in a career development event. Respondents in the student survey were asked to complete 31 items related to the educational value of the national career development events in which they participated, the quality of the event itself, and methods of recognition. The Likert-based items on the survey instrument ranged from 1 = Strongly Disagree to 5 = Strongly Agree, and from 1 = least important to 5 = most important. Respondents in the teacher survey were asked to complete 24 items related to the educational value of the national career development events in which they participated, the relationship to curriculum, types of instruction materials and training methods. Likert-based items on the instrument ranged from 1 = Strongly Disagree to 5 = Strongly Agree, and from 1 = least important to 5 = most important. A team of professional educators who work closely with national FFA career development events developed the instrument. The instrument's validity was established by teacher educators with experience in FFA programs. A reliability analysis yielded Kuder-Richardson 20 coefficient scores of .79 for the student survey and .70 for the teacher survey. The instrument was administered to participants upon completion of their respective career development event.

Findings

The 2145 student respondents were almost equally divided according to gender, although the females held a slight majority at 48.5% when compared to the male respondents (48.4%). The majority of respondents were Caucasian (92.2%) with the second largest ethnic population in the study being Native Americans (1.6%). There were no African American respondents in the survey. Most of the students were juniors and seniors in high school (61.8%), and the majority of

respondents had been FFA members for three or more years (76.5%). The majority were from a rural farm community (63.4%). Almost half of the respondents reported that the chapter FFA degree was the highest degree they held at the time of the national career development events, and 12.9% reported that they had earned no degree at all. Seventy-five percent of respondents reported that the 2003 national FFA career development event in which they were participating was their first one. Twenty-four percent of respondents had participated in two or more national career development events.

Participants were asked to rate five items based upon the impact these items had on their decision to participate in the national CDE. Participants ranked competition as having the least impact on their decision to participate in a national career development event. The item that most influenced the respondents' decision to participate was that the national CDE related to their career choice (see Table 1). An independent samples t-test found that female students ranked career choice significantly higher than male students. Male students rated the opportunity to earn scholarships and to develop leadership skills significantly higher than female students.

Table 1

Participant's decision to participate in a national career development event.

Item	Male Students (n = 1039)		Female Students (n = 1041)		
	Mean	SD	Mean	SD	*t-value*
Relates To Career Choice	3.04	1.39	2.87	1.45	2.81*
Leadership Development	3.21	1.21	3.71	1.18	-.9.46*
Scholarship Awards	3.53	1.31	3.75	1.19	-3.95*
Travel/Fun	3.80	1.23	3.72	1.21	.1.42
Competition	3.92	1.09	3.98	1.06	-1.24

Note. 1 = Most Important, 2 = Important, 3 = Neutral, 4 = Moderately Unimportant, 5 = Least Important. *$p<.01$.

Respondents reported that participation in the national career development event evaluated their current knowledge of the agriculture subject specific to the event (M = 4.13, SD = 0.91), and that classroom instruction was useful preparation for the event (M = 3.84, SD = 1.09). Respondents agreed that participation better prepared them for future employment opportunities (M = 3.81, SD = 1.03), and exposed them to new career areas associated with the career development event (M = 3.60, SD = 1.10). To a lesser extent, respondents agreed that participation was valuable to their career preparation (M = 3.47, SD = 1.18) and that it related to their supervised agricultural experience (M = 3.21, SD = 1.34) (see Table 2).

Table 2

Mean scores of respondents regarding the educational value of the career development event.

Item	Mean	SD
This specific event evaluated my current knowledge and ability.	4.13	0.91
The instruction I received during my agriculture classes prepared me to participate in this event.	3.84	1.09
By participating in this event, I am better prepared to compete for future employment opportunities.	3.81	1.03
My participation in this event exposed me to new career areas.	3.60	1.10
Participation in the event was a value to my career preparation.	3.47	1.18
The event was related to my supervised agricultural experience.	3.21	1.34

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Respondents agreed that the instructions they received regarding the computerized scoring process (M = 4.27, SD = 0.91) as well as overall event procedures were clearly explained (M = 4.03, SD = 1.02). Rules were enforced fairly (M = 4.18, SD = 0.99) and distractions were limited (M = 3.54, SD = 1.17). The facilities were adequate for the event (M = 3.96, SD = 0.98), and materials used by the respondents allowed them to perform at their best performance level (M = 3.90, SD = 1.02) and they were able to complete the event activities in a timely manner (M = 3.92, SD = 1.17). Overall, respondents reported that both they (M = 3.92, SD = 1.03) and their team members (M = 3.84, SD = 1.03) were prepared to participate in the event (see Table 3).

Seven items on the survey instrument asked respondents to rate the common methods of recognition for participation in career development events (see Table 4). Respondents rated scholarships (M = 4.52, SD = 0.84) as the most important method of recognition among all other items. Respondents also rated tangible representations of their achievement in the form of medals, plaques, and trophies (M = 3.60, SD = 1.06). Respondents also rated publicity in news media (M = 3.33, SD = 1.14), award functions (M = 3.32, SD = 1.10), and internships (M = 3.29, SD 1.26) as important. Respondents were neutral towards certificates as a form of recognition (M = 2.90, SD = 1.16) and main stage recognition (M = 3.14, SD = 1.21).

More than two-thirds (68.6%, n = 1472) of respondents planned to attend a college or university as a full time student upon graduation from high school, and 6.5% (n = 140) plan to attend college on a part-time basis. An additional 4.7% (n = 101) plan to continue their education in a technical school. When asked what they would do if they attended college, 17.4% (n = 373) of members would pursue a degree in food, fiber and natural resources while 70.3% of members (N = 1508) would seek a degree in another career area. Thirty-five respondents have no future educational plans at the time this survey was administered. After high school, 16 students expect to become employed full-time in the food, fiber and natural resources industry and 19 students (0.9%) plan to seek full-time employment in an industry not related to agriculture.

Table 3

Mean scores of respondents regarding the quality of the national career development event.

Item	Mean	SD
I understood the instructions given for completing the computer score sheets.	4.27	0.91
Event committee enforced the rules for this event in a fair manner.	4.18	0.99
The degree of difficulty was appropriate for this level of competition.	4.11	0.94
Event procedures were explained clearly by event officials.	4.03	1.02
Facilities used for the event were adequate.	3.96	0.98
I was prepared to participate in this event.	3.92	1.03
I had enough time to complete the event activities.	3.92	1.17
Materials used during the event allowed me to perform at my best level.	3.90	1.02
My team was prepared to participate in this event.	3.84	1.03
Distractions were limited.	3.54	1.17

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Thirteen percent (n = 279) of respondents reported that they eventually intend to seek a career in the food, fiber and natural resource industry in which they will use the skills they learned as a direct result of their participation in a specific career development event. An additional 165 respondents (7.7%) plan to enter a food, fiber and natural resource career, but not in the CDE area in which they participated. Eight hundred and seven respondents (37.6%) plan to use the skills they learned in this event in a career not related to the food, fiber and natural resource industry. Skills notwithstanding, 346 respondents (16.1%) plan to pursue a career outside of the food, fiber and natural resource industry. Fifty-two students (2.4%) plan to enter military service.

Table 4

Respondents' opinions on the importance of selected recognition methods.

Items	Mean	SD
Scholarships	4.52	0.84
Plaques/Medals/Trophies	3.60	1.06
Publicity, Local or Regional Newspaper Articles	3.33	1.14
Recognition at Award Functions	3.32	1.10
Internships with Event Sponsors	3.29	1.26
Main Stage Recognition	3.14	1.21
Certificates	2.90	1.16

Note. 5 = Most Important, 4 = Important, 3 = Neutral, 2 = Moderately Unimportant, 1 = Least Important.

The majority of career development event coaches who completed the survey instrument were agriculture teachers (98.5%), and three out of every four career development event coaches were males (75.8%). Almost all of these coaches were Caucasian (96.1%), 2% were Native

American, 1% Pacific Islander, and 1% Hispanic. There were no African American or Filipino respondents for the coaches' survey in the career development events at the 2003 National FFA Convention. Most of the teacher respondents (43.7%) had prepared between one and three teams for national competition. Slightly less than one-third (30.7%) of all CDE coach/respondents had taught for 21 years or more. Most of the respondents reported teaching in a comprehensive high school with grades nine through 12 (72.4%), and most of these schools are in a rural farm community (54.1%). The majority of respondents work in a one-teacher (43.3%) or a two-teacher (34.3%) program. Roughly three-fourths of the teacher respondents (77.7%) reported that less than half of the students they teach come from an agricultural background.

Most respondents (60.3%) believed that instruction about the area of agriculture represented by the career development event was integrated into their curriculum (see Table 5). The teacher-respondents overwhelmingly agreed that the career development events accurately evaluated student knowledge and ability (90.3%).

Table 5

Teachers views on the relationship between classroom instruction and curriculum to career development events

How the event related to classroom instruction.	Responses (n = 184)	
	Frequency	Percent
No relationship to the curriculum.	13	7.1
The curriculum included a unit of instruction.	48	26.1
The curriculum integrates several units of instruction.	111	60.3
The curriculum specialized in this area of agriculture.	12	6.5

Competition was the most frequent answer given by teacher-respondents (48.5% very important, 37.9% important) as the most important reason why students prepared for career development events (see Table 6). Teacher respondents also indicated that their encouragement often motivated students to prepare for career development events (41.9% very important, 30.3% important) and that travel and the fun associated with it were also very important reasons (30.7% very important, 33.7% important).

Table 6

Teacher-Respondents' perceptions of why students are motivated to prepare for the career development event.

Item	n	Mean	SD
Competition	198	1.71	.86
Encouraged by agriculture teacher	198	2.01	1.10
Travel/fun	199	2.22	1.11
Development of leadership skills	198	2.25	1.12
Relationship to program curriculum	197	2.72	1.17
Relates to students' career choice	198	2.83	1.21

Note. 1 = Most Important, 2 = Important, 3 = Neutral, 4 = Moderately Unimportant, 5 = Least Important.

When Do Agriculture Teachers Train Their CDE Teams?

Students were asked when they were trained for the CDE's. There was no single clear-cut answer. CDE teams appear to be trained during class time, after school, before school and on holidays and weekends. The data indicate most teachers use a combination of these times. However, there were some observable trends. It is a rare teacher who does all of the CDE training before school. Only .61 percent of the responses fell into this category while 13.5 percent of the responses indicate teachers never train CDE teams before school. The most identified time to train CDE teams is after school (see Table 7). The majority of teachers spent one to five hours per week training students for national CDE competition (see Table 8).

Table 7

When Agriculture Teachers Train Teams as Reported by Students

	Never	Sometimes	Moderately	Very Frequently	Always
During Class	6.04%	9.50%	4.37%	3.65%	1.39%
Before School	13.50%	7.21%	1.95%	1.56%	0.61%
After School	1.97%	7.38%	6.63%	6.66%	2.51%
On Holidays and Weekends	5.57%	9.94%	4.65%	3.56%	1.36%

Note. The National FFA had students check one of 11 categories (0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100%) for each row of data. Because of the unwieldiness of these data, the data were regrouped into five categories (Never = 0%, Some Times = 10, 20 & 30%, Moderately = 40, 50 & 60%, Very Frequently =70, 80, & 90%, Always = 100%). The number of responses in each category were summed and then divided by the grand total number of responses to derive a percentage.

Table 8

Time spent preparing students for the national FFA career development event

Time was spent preparing students for the event	Responses (N = 192)	
	Frequency	Percent
All training completed during a scheduled class.	11	5.7
1-2 hours per week beyond classroom instruction	68	35.4
3-5 hours per week beyond classroom instruction	71	37.0
5-10 hours per week beyond classroom instruction	31	16.1
More than 10 hours per week beyond classroom instruction	11	5.7

Conclusions

Conclusion 1: Among a list of potential reasons why students participate in national FFA career development events, the most important reason selected by students was to learn skills that will translate into a career option for them once they graduate from high school. Female

participants are significantly more likely than males to participate because the career development relates to their career choice. Male participants are more likely than females to participate for leadership development and scholarships.

Conclusion 2: Even though almost half of the FFA members who participate in national career development events indicate that they do not plan to pursue careers in the food fiber and natural resource industry, they are generally pleased with the conduct of the events and find them valuable to their education.

Conclusion 3: The agriculture teacher primarily trains FFA members for national FFA career development events. This training generally lasts between one and five hours per week and will most likely occur after normal school hours.

Conclusion 4: Teachers and students in this study disagree as to the reason why members participate in national career development events. Teachers believe that the most important reason for participation is competition, but students indicate that their most important reason for participation is that the event relates to their career choice.

Discussion and Implications

Some cynics may say that students participate in national CDE's because, "The students won the state event." This answer is too simple because students choose whether or not they will advance to national competition. Furthermore, it does not explain why students chose to participate in career development events in the first place, nor does it explain why they chose to devote the time and effort necessary to be in a position to win the preliminary events leading up to the national event.

The concept of CTSO career development events rests largely on a system of competition, and it is surprising that students rank competition as the least of reasons behind their decision to prepare for a career development event. In addition to career choice, students also ranked leadership development and scholarship awards above competition, suggesting that students are becoming more concerned about developing skills in the competition that really matters to them – finding, acquiring, and building a career in a chosen occupation. In this case, career development events are succeeding because students believe that they are receiving content-specific instruction and are better prepared for a chosen career because of it.

The ratings given by member respondents indicate that the National FFA Organization is running a smooth operation with regard to career development events. Students know what is expected of them when they compete, and the event is structured so that students feel that they have done their best work.

If you wish to make a student happy upon completion of the career development event, it may be best to award a scholarship for exemplary achievement in addition to plaques and trophies. Many students in this study intend to go to college after their high school years, and financing a college education is very much on their minds. As more women move into executive leadership positions in business, there emerges an opportunity for the FFA and agricultural

education to deliver high quality business–oriented leadership training, and provide the scholarships necessary for young women to continue their education in college.

Out of the 2145 survey responses received from students at the 2003 career development events, none came from African American students. It would seem that if there were any African American students in the national career development events that at least one or two would have completed the survey instrument. The obvious implication is that African American students are an underserved population in agricultural education and FFA, especially when it comes to reaching the highest level of career development events. The obvious recommendation is for the agricultural education profession find ways to involve African American students in career development events, but a better investment of time and resources might be to find better ways to "turn them on" to agricultural careers. If the profession can convince African American students and their instructors that an agriculturally related career is an alternative for them, then perhaps we will see increased participation by them in national career development events.

Although students indicates their reason for participating in a national career development event was because it related to their career choice, a significant number of them planned to seek careers outside of the food, fiber and natural resources industry. Is this an indication that the mission of agricultural education has shifted more toward agricultural literacy than career preparation? Will the agricultural education profession be content serving a significant population of students who do not intend to pursue a career in the industry?

The lack of a discernable pattern in the training schedule for national career development events suggests that teachers are finding it difficult to schedule practices when all team members can be present. Teachers and students might be finding themselves dodging meetings, after school work schedules, after school transportation problems, and other school and FFA activities in search of the ideal practice time for CDE's. Teachers may soon experience burnout if they spend too much of their personal time preparing students for career development events.

Teachers rated competition as the issue of primary importance while the students rated it the issue of least importance. Students rated career preparation as their primary reason for participation in national CDE's while teachers rated it as the issue of least importance. One might suggest that teachers are overemphasizing competition at the expense of the students. However, a more accurate answer may be that competition is what keeps teachers motivated to prepare students for career development events year after year. The students are receiving awards and important career preparation, and the teachers are receiving recognition for having their students appear in a national career development event. The prestige of having won a state career development event and advancing to national competition may be one of the intangible rewards teachers earn in a life devoted to teaching.

Recommendations

As a result of this study, it is recommended that further research be conducted in the area of program planning and resource allocation in agricultural education programs. Teachers may need assistance in effectively managing their agricultural education program so that the amount of personal time needed for CTSO activities during weekends and holidays can be significantly

reduced. It is also recommended that the National FFA Organization partner with the agricultural education profession to seek ways to effective strengthen diversity among students. National CTSO's should also continue its system of evaluation for career development events. CTSO career development events should maintain their relevancy as advances are made in business and industry.

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