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Student Attitudes vs. Technology Barriers: Who Wins???

Sara Brierton & David Jones
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Introduction/Need for Research

Technology integration into education is no longer a someday proposition, the question isn't if, it isn't even when, the question is how? How do we successfully utilize the power of new technologies to increase student learning, especially for those students who were not born with an iPod in their hands. How do we run with the latest and greatest integration methods when some of our students cannot even walk with yesterday's computer skill set? The assumption that our students, all of our students, are computer savvy is a dangerous one. Many of our students may not have had the computer exposure we assume they have had, either because of location or upbringing, but especially because of age. And we are seeing more and more of these non-traditional students on our college campuses. Over the last three decades the rise of adult student participants in undergraduate classes has been significant (Seftor and Turner, 2002). If these students are not as proficient in using the computer as other students in their classes does this affect their thoughts about technology integration into those classes? This research looks to examine the relationship between computer skill proficiency and beliefs about technology integration into education.

Conceptual or Theoretical Framework

This research is based on Ajzen's (2001) theory of planned behavior (TPB). The theory of planned behavior says that people act according to their intentions (which are impacted by their behavioral attitudes) and their perceived control over their behavior.

Methodology

A survey instrument was used to collect data; it was administered to all students from two sections of an undergraduate level leadership course that is taught within a technology framework. The survey consisted of three main sections: computer skills which assessed general computer skills in several areas, a technology beliefs section which examined student's beliefs with regard to technology integration and classroom instruction on a Likert-type scale, and the barriers section, which also used a Likert-type scale with regard to the barriers of technology integration into education. The Cronbach's Alpha reported for each section was .95, .86, and .78 respectively (Brinkerhoff 2001). A brief introductory demographic section was used to acquire data regarding the age range of the participants.

Results/findings

The results of the study found that as age increases self-ascribed computer skill competency decreases. The survey consisted of 37 questions regarding computer skills, the statistical analysis returned ranged from low to substantial correlations (in the negative). The study also found that as age increases learners express that the barriers to integrating technology into education also increase.

Figure 1. Correlations between Age and Responses Regarding Technology Barriers.

Technology Barrier Question	#57	#58	#59	#60	#61	#62	#63	#64	#65	#66	#67
Pearson Correlation With Age	.587**	.583**	.451*	.337	.509**	.107	.550**	.255	.158	.243	.232

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)

Analysis of the data found no such connection between age and beliefs. An increase in age appears to have no significant impact on the learner's beliefs about integrating technology into education.

Conclusions

Despite the fact that their skill competencies are not strong and the barriers to technology integration appear to increase with age these learners indicated that those factors had no significant bearing on their beliefs about integrating technology into education. The questions in the beliefs section were written to assess the learner's beliefs about this integration and its impact on them personally. It would be easy to agree that the integration of technology into education is a good idea in general; however these students support it for themselves specifically, even when their general computer skills are relatively weak and even though they are currently encountering integration barriers. These students believe that technology integration into education is important, that it will benefit them and increase their learning.

Implications/Recommendations/Impact on Profession

Although this study can serve as another endorsement for the continued integration of technology into education it is just as important that opportunities for improvement are recognized. Further research is needed on the best ways to integrate technology; ways that take into account the different skill levels of learners; ways that make the addition of technology a positive and not another barrier for students. Although these students have not been dissuaded in their beliefs despite barriers it is important to try and reduce those barriers and increase their skills. It is important to be careful when making assumptions about the computer skill set learners posses. It is also important that other assumptions are not made regarding older learners, such as that they are not interested or willing to participate in technology integration. Further research is also needed to indicate the best ways to provide opportunities for all learners to improve skills and reduce barriers.

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The Effectiveness of a Dynamic Interdisciplinary Food Safety Curriculum Targeted on Middle School Students in Tennessee

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Introduction/Need for Research: According to U.S. Center for Disease Control (as cited in Guinan et al., 2002) the number of lost school days annually among kindergarten through twelfth-grade students was reported to be 164 million days, with an average of 4.5 days a year per student. Research has shown that the earlier a person learns food safety the healthier they will be. Patnoad & Pivarnik (as cited in Eves et al., 2006) noted the importance of intervening early, before adulthood, as behaviors are more easily changed at a young age. Input at key stage 3 (11-14 years), may intervene before poor habits are established by providing direction as behaviors are learned for the first time, as well as providing an environment where young people can influence and be influenced by peers, (as cited in Eves et al., 2006). Children might also act as facilitators of good hygiene practices in the home through messages conveyed to family members. Dr. Richard Raymond, Under Secretary for Food Safety, said "We are protecting public health through a safer food supply, and I know we can make further progress in fighting foodborne illness" (Payne, 2006, p. 17).

Youth are in the category labeled "high risk," by the Center for Disease Control (CDC), because they are more likely to acquire foodborne illness and suffer more serious complications than adults (Food Safety Education Conference, 2006). The key to reducing foodborne illness is to educate children, especially the young, who are the food preparers of the future (Haapala & Probart, 2004, p.71). To address this need, a National Integrated Food Safety Initiative (NIFSI) Grant was awarded to a Southern state. The Food Safety in the Classroom curriculum was developed and implemented in two of the six schools in a county in the Southern state.

The Food Safety in the Classroom curriculum is an innovative curriculum designed to deliver food safety education through hands-on activities with real world applications. These food safety lessons meet the Southern state's performance standards and are taught in science, language arts, math and social studies, lasting one week. Each class lesson is coordinated with the other classes and each day builds upon the previous.

Conceptual or Theoretical Framework: With more than 144 million missed school days per year due to sickness, it is easy to see how crucial it is to control absenteeism (Guinan, McGuckin & Ali, 2002). Absenteeism defined is the number of episodes of illness per child per month (Guinan et al., 2002). Proper hand hygiene is the most effective way to stop the spread of illness-causing germs (Guinan et al., 2002). When students and teachers are absent from school they have lost learning opportunities, school funding is reduced and increased costs for substitute teachers.

Methodology: The overall purpose of this study was to assess the effectiveness of the Food Safety in the Classroom Curriculum with regard to its ability to increase 7th grade students' knowledge in science, language arts, math and social studies core courses, as well as their knowledge of proper food handling skills and behaviors. A descriptive research

design that provided quantitative data was employed using ex post facto research. Pre-post tests were used as well as post-test comparison. The study was conducted in the individual school classrooms, as to not disturb their learning environment.

The study used Non-Probability sampling, as the intended purpose was not to generalize to the entire United States population, but to use the findings to compare schools of the actual sample group being studied. This research used convenience sampling as the researcher simply chose the closest persons or intact groups, such as school classes. The population for this study included all 7th grade students at Burchfield, Huntsville, Fairview and Oneida Middle School. Each student was given equal opportunity to voluntarily participate in the study. The population consisted of 239 students; 145 for the treatment schools and 94 for the comparison schools, was generated from the school attendance database in the superintendent's central office.

Results/Findings: One of the objectives of this study sought to describe the differences in pre-test and post-test scores on all six dependent variables studied for the treatment group (Science Knowledge, Language Arts Knowledge, Math Knowledge, Social Studies Knowledge, Food Handling Skills Knowledge and Food Handling Behaviors Knowledge). There was a mean increase of 1.94 per knowledge area, which caused an overall mean score increase of 7.77 within these four knowledge areas comparing pre-test (M= 21.90) to post-test scores (M= 29.67). The overall mean score, including the knowledge areas, food handling skills and behaviors, for the pre-test totaled 60.01 and 72.56 for the post-test. Overall the treatment groups' mean score improved (12.55) from pre to post-test. Another objective for this study sought to describe the difference in post-test scores and follow-up test scores on all six dependent variables for the treatment group (Science Knowledge, Language Arts Knowledge, Math Knowledge, Social Studies Knowledge, Food Handling Skills Knowledge and Food Handling Behaviors Knowledge). The overall mean score for the treatment group follow-up (71.18) was higher than the treatment group post-test (69.84). Overall, the mean score for the post-test and follow-up increased by 1.34. The last objective sought to describe the difference in post-test scores for the treatment and comparison groups on all six dependent variables (Science Knowledge, Language Arts Knowledge, Math Knowledge, Social Studies Knowledge, Food Handling Skills Knowledge and Food Handling Behaviors Knowledge). The overall mean score for the post-test of the treatment group totaled 69.80 compared to 52.52 for the comparison group, an increase of 17.28. So, overall the treatment group scored higher on all components tested than the comparison group.

Conclusions: The following conclusions were based on the findings of this study: The treatment group increased in all areas from pre-test to post-test. The areas included: Science Knowledge, Language Arts Knowledge, Math Knowledge, Social Studies Knowledge, Food Handling Skills Knowledge and Food Handling Behaviors Knowledge. The data suggests this interdisciplinary food safety curriculum has made a positive impact on the treatment group. The scores after the program record higher overall than the comparison group scores. The data has shown the treatment group had retained the knowledge, skills and behaviors six weeks after the treatment was administered. Data revealed that the overall mean score for the treatment group pre-test was higher (+7.24) than the post-test score of the

comparison group. There was some evidence to suggest that the treatment group had more knowledge than the comparison group before the treatment, except in science, however the gain score afterwards shows the program successful.

Implications/Recommendations: It would be of interest to conduct a study to compare this interdisciplinary food safety curriculum to another food safety curriculum with similar topics which is implemented in a single subject classroom instead of across all subject lines. The findings would further support whether students learn and retain more information if it is taught across all disciplines or in just one subject class.

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What Affects Changes in Middle School Students' STEM Interests and Beliefs?

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Introduction

Students' negative attitudes toward math and science and the "disconnect" they experience between scientific content and real-world applications increase as students advance in grade level (Morell & Ledermann, 1998; Weinburgh, 2003). By middle school many students do not connect classroom content with science-related careers: a time when the development of negative attitudes is most noticeable and critical changes have life-long affects (Anderman & Maehr, 1994; Atwater, Wiggins, & Gardner, 1995). This is of special concern as STEM attitudes affect career choices (Atwater et al., 1995) and STEM-based agricultural programs have experienced decreasing enrollment (McCallister, Lee, & Mason, 2005).

In an effort to increase middle school students' Science, Technology, Engineering, and Mathematics (STEM) attitudes and increase the connection of STEM content and real-world applications, The Partnership for Environmental Education and Rural Health (PEER) GK-12 program was developed at Texas A&M University. PEER was an interdisciplinary program funded by a grant from the National Science Foundation which utilized an interdisciplinary partnership between different STEM colleges and departments within the Texas A&M University system and public middle school math and science teachers and their students within a 40 mile radius of College Station, Texas. PEER placed STEM graduate students (termed NSF Fellows) in middle school science and mathematics classrooms to promote and create authentic inquiry lessons and serve as both teacher content resources and student role models. The goals of the project were to enhance the quality of middle school student educational experiences using inquiry learning and to improve middle school student's attitudes toward the STEM areas.

Methodology

The purpose of this study was to develop a model which describes the relationship of inquiry-based teaching elements on middle school students' STEM interests and belief changes. The study utilized pretest/posttest, correlational, and longitudinal designs and a voluntary population. Inquiry data and middle school attitudinal data were collected from middle school classrooms within a 40-mile radius of Texas A&M University during the 2004-2005 and 2005-2006 school-years. Classroom inquiry data were collected using the Reformed Teaching Observation Protocol (RTOP) developed by the Arizona Collaborative for Excellence in the Preparation of Teachers (ACEPT) at Arizona State University (Sawada et al., 2002). Middle school students' STEM interests and beliefs data were collected utilizing a pre-test/post-test design. The attitudinal instrument consisted of open-ended responses and Likert-scaled questions measuring middle school students' level of agreement (1= disagree strongly, 2= disagree, 3= neither agree nor disagree, 4= agree, and 5= agree strongly) with 20 reverse coded statements. STEM interests and beliefs scales were summed to determine middle school students' overall STEM interests and beliefs. RTOP scores and summed STEM interests and beliefs scales were converted to *z* scores and averaged so that Pearson's Product Moment Correlation analyses could be conducted to determine if

statistically significant ($\alpha = 0.05$) relationships existed between classroom inquiry statements, demographic variables, and changes in middle school students' STEM beliefs and interests. Stepwise regression analyses were conducted with RTOP statements and variables identified as having a statistically significant association with middle school students' STEM beliefs and interests.

Results

Data were analyzed from 139 RTOP observations ($N = 139$) and 1,779 middle school students' attitudinal data ($N = 1779$). Correlation analyses indicated the variable *change in STEM interest* had a statistically significant ($\alpha = 0.05$) relationship with middle school students' change in STEM beliefs and statistically significant ($\alpha = 0.05$) relationships existed between changes in middle school students' STEM interests and four RTOP inquiry statements: *"Teacher as listener" was very characteristic of this classroom; Students were involved in the communication of their ideas to others using a variety of means and media; Student questions and comments often determine the focus and direction of classroom discourse;* and *The instructional strategies and activities respected students' prior knowledge and the preconceptions inherent therein*." Regression analyses indicated 24% of the variation in middle school students' change in STEM interest was explained by the inquiry statement *"Teacher as listener" was very characteristic of this classroom*. Analyses further indicated that 55% of the variation in middle school students' change in STEM beliefs was explained by their change in STEM interests.

Conclusions and Recommendations

Middle school students' interest in STEM has a substantial affect on their beliefs about STEM and is significantly impacted by "teacher as listener" in the classroom. The relationship between STEM interests and STEM beliefs takes on greater importance as STEM attitudes affect career choice (Atwater et al., 1995), and increases in STEM beliefs should increase students' interest and pursuit of STEM careers. Instructional strategies emphasizing "Teacher as listener" should be implemented to increase middle school students' STEM interests, thereby increasing their STEM beliefs. Further research should be conducted as to why "*Teacher as listener being very characteristic of this classroom"* had such an impact on middle school students' change in STEM interests.

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Enhancing Preservice Agriculture Teachers' Reflective Practice using the Structured Field Experience

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Introduction

Teachers develop as professionals when they increase their understanding about their practice. Often, this level of awareness is gained through reflection. Reflective teachers dissect their current actions, express the rationale for using different techniques, then use the information to decide how to improve their efforts to maximize student learning (Lee, 2005). Attention to "pedagogical content knowledge; knowledge of characteristics of learners; knowledge of teaching contexts; and knowledge of educational purposes, ends and aims" (Walkington, Christensen, and Kock, 2001, p. 346) is the landscape from which teachers may draw for the purposes of reflection. However, teachers at all stages of their careers are different and as a result need access to differentiated opportunities to engage in the action (Nolan & Hoover, 2005).

Reflection is a highly personal activity and reflection affords teachers the opportunity to focus their efforts on their own challenges, what they want to know and learn more about, and the manner by which they wish to overcome those challenges. Preservice teachers have a limited concept of the teaching learning process when compared to practicing teachers. By supporting preservice teachers' reflective practice, they will be better prepared to facilitate their own professional growth needs once they depart the teacher education program.

Theoretical/ Conceptual Framework

In her study of preservice teachers' reflection, Lee (2005) used three criteria to assess the depth to which preservice mathematics teachers engaged in reflective practice. These levels included:
(1) Recall – describing experiences as they occur; failing to think of alternatives
(2) Rationalization – making connections between experiences; creating rules for future
(3) Reflectivity – viewing experiences from many perspectives; improvement being the goal

The study was founded on a constructivist theoretical perspective, relying on the participants' descriptions of their experiences to produce meaning. The purpose of this study was to examine how the structured field experience program impacts the level at which a preservice teacher reflects on his or her practice. Focusing on the content and depth of reflective practice, the following research questions were pursued: (1) on which topics did the participants spend the greatest time reflecting, (2) what changes in the participants' reflective practice occurred over the course of the four microteaching experiences and (3) what levels of reflection were reached by the participants?

Methodology

Nine members of the teaching methods course agreed to take part in this census study. Data were collected in the form of semi-structured interviews, the researcher's observation notes during the microteachings and during the interviews, and written reflections and lesson plans collected from the participants. As part of the course

requirements, participants completed a series of four microteaching experiences. Each field experience had associated activities including a pre-conference interview, a private written reflection, and a post-conference interview.

All observation notes were expanded and subjected to the coding process. Data were open coded using *in vivio* codes as appropriate. The open codes formed axial codes and the axial codes which were grouped into selective codes. Related selective codes were combined forming the overarching thematic domains.

Findings

The domains emerged from each microteaching, following a preliminary analysis of the data. Each domain is featured in bold text.

- Microteaching 1: Teachers were concerned primarily with **presentation style**.
- Microteaching 2: Teachers use of "I" was prevalent in a **teacher-first attitude**. **Classroom management** also surfaced as teachers spent more time considering student behavior in the learning environment.
- Microteaching 3: Teachers displayed a **Student-first attitude** with greater frequency and greater intensity. They also began to share more about the rationale behind their decisions.
- Microteaching 4: Teachers focused their reflections around assessing the current experience and **planning for change**.

Conclusions/ Implications/ Recommendations/ Impact on Profession

The preservice teachers engaged in each of the levels of reflection as the series of four microteachings proceeded. Much of the reflective statements in the early experiences were primarily related to the levels of Recall and Rationalization (Lee, 2005). Most of the teachers remained in these lower levels until their fourth experience, with several displaying tendencies toward higher levels of reflection as early as their second microteaching.

Many preservice teachers leave their teacher education programs lacking a solid understanding of the role reflection can play in their professional development. Continuous reflection can have a powerful impact on teachers' ability to perceive themselves and their roles as educators. The perceptions gained contribute to richer, more varied conceptions of self than can be expected from a program lacking such an activity. The use of pre-conferences, private written reflections, and post-conferences provide a forum for teachers to surface the thoughts, questions, and feelings they have about merging their theoretical knowledge within practical situations. By having access to a structured field experience during their teacher education programs, it is hoped preservice teachers can sustain higher levels of reflection following program completion.

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Needs Assessment for the Virginia Farm Bureau Federation Young Farmers Program: Who are Young Agriculturalists in Virginia

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Introduction

The agricultural industry is constantly changing. The industry has a constantly evolving assortment of occupations related to the production, processing, shipping, sales, and distribution of food and fiber products. Wildman and Torres (1999) describe this change from the traditional view of agriculture as, "the modern food and agricultural system encompasses not only primary production, processing, marketing, and retailing, but also natural resources and the environment; human communities and their well being; and consumer health, safety, and ethics" (as cited in Kunkel, Maw, & Skaggs, 1996, National Research Council, 1996). Other changes in the industry include the increasing average age of producers. The average age of Virginia producers is 56.7 years old (ERS, 2007), increasing the importance of a workforce of younger people interested in production, as well as other aspects of agriculture. However, Russell (1993) and others believe that "with fewer youth going into agriculture, the long-term future of the agricultural industry is in question." With these changes in the industry, come needed changes in agricultural organizations as they are vital in helping to prepare the future workforce of agriculture and sustaining rural communities.

The Virginia Farm Bureau Federation (VFBF) recognizes the need and importance of ensuring a bright future for agriculture and rural communities, embodied through mission statement "We will enhance, primarily through advocacy, education and communication, the agricultural interests of Farm Bureau members through economic, political and social programs" (VFBF, 2007). One of VFBF's largest programs, Young Farmers (YF), has traditionally been reserved for young producer members of Farm Bureau. The leaders of the Federation and YF Program have recognized the need to offer membership not only to producer members of VFBF, but to anyone interested in agriculture. The new definition states that "VFBF Young Farmers are those individuals 18 through 35 years of age with an interest in supporting agriculture through production, education, promotion and/or leadership" (Ron Saacke, personal communication August 30, 2007). By gaining a greater understanding of the characteristics of this group and examining and understanding the needs of young people interested in agriculture in Virginia, organizations like Farm Bureau can do a better job providing programs and support. Equipping this group with the tools necessary for success will help to ensure a bright future for all of Virginia's agricultural industry.

Conceptual Framework

Engelsgjerd and Larson (2000) determine that with the proper focus, methodology, and analysis, a needs assessment provides valuable information about what the current and potential members need, want, and expect. Utilizing this framework, the researchers developed a short needs assessment to determine who the potential YF member is and what they need to help them improve their careers, farms, or agribusinesses; their communities and organizations.

Methodology

This exploratory study utilized an electronic survey instrument to collect information on the organizational needs of young Virginian's interested in agriculture. This is a correlational study that utilized data from a census of the groups identified. The participants of this study were identified by the research team as having a vested interest in agriculture. The Virginia Association of Agricultural Educators, Cooperative Extension Agents, Farm Credit Lenders, and the current VFBF Young Farmers have been identified as groups whose members, by nature of the group, have a vested an interest in agriculture and or rural communities. The survey was pilot tested and modified to enhance face validity before it was administered. The response rate for the electronic survey was 22% (136 of 623).

Results to date

The results show that respondents have a vested interest in agriculture. While the majority works in an agriculture-related field other then farming, over half of the respondents plan to farm in the future. The majority of respondents are not the first generation to be involved in agriculture. All respondents reported that they are or have been a member of agricultural organizations including FFA, 4H, Farm Bureau, and commodity groups. Half of respondents are female and hold Bachelor degrees. Needed skills and programs identified by participants are grouped into two categories: those needed to improve their careers, farms, or agribusiness and their communities and organizations. If programs on the topics identified by the participants were offered their local area, the majority reported that they would attend.

Conclusions

Based on the responses received, the face of agriculture in Virginia is changing. While most of the respondents are at least the second-generation in their family involved in agriculture, more females are involved and many of respondents were interested in agriculture although they did not farm. The young agriculturalists surveyed also identified several areas where they would like professional development and they are willing to attend educational programs to improve their skills in leadership, management, and personal development.

Implications and Recommendations

The researchers recommend that a hard-mail survey be sent to ensure that voice of audiences not inclined to use electronic communications are included. Further research is necessary to further explore specific needs of the audience. The researchers who conducted this study are launching a qualitative study based on these findings.

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Is a Sense of Community Important to Distance Students?

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Introduction/Theoretical Framework

Agricultural Education departments are offering classes as well as full graduate degree programs online. This trend reflects Dawson's (2006) statement that higher education is changing from a teacher-centered to a learner-centered focus. Distance students are attracted to online learning because it is flexible and realistic. Resident and distance graduate students learn from observing and interacting with faculty, but it is important to recognize that they also have a strong reliance on their peers to make sense of their graduate school experiences (Austin, 2002). Vygotsky (1978) argues learning is not merely the accumulation of new knowledge, learning is a product of social interactions and learning is the process of learners being integrated into a knowledge community. As such, do distance students think a sense of community is important in helping them learn when separated from their peers?

Methodology

This study is classified as expansion research within the qualitative research paradigm using naturalistic inquiry, incorporating quantitative analysis that was descriptive and correlational. The natural setting for this study included all 19 students of the new cohort of a jointly administered distance delivered doctoral program. The cohort was introduced to the study and the use of a Wiki during their induction, August 2006. The following December, after the cohort had completed their first semester in the program, they each participated in a semi-structured phone interview assessing the cohort's experience as new online students, their use of web-based communication tools, and to asses their person sense of community with the group. The Sense of Community Index was administered during the phone interview. A tally was kept of each individual's use of the Wiki and the pages of the Wiki were printed for content analysis.

The constant comparative method of content analysis was used on collected data (postings from the Wiki and the transcribed interviews) to compare across categories and construct meaning. Descriptive frequencies, responses from the SCI, and bivariate correlations were analyzed using the Statistical Package for Social Sciences (SPSS), version 14.0.2, 2006.

Results

The Sense of Community Index (SCI) developed by Chavis, Hogge, McMillan, & Wandersman (1986) seeks to give a quantitative expression to a person's sense of community, which is usually defined as a sense or feeling that a person has when they feel a sense of trust, safety, and belonging with others in their community. All 19 participants in the cohort scored at least 75% *True* answers on the SCI and eight students scored 100% *True* answers. A true answer on the SCI indicated a strong feeling of community and a *false* answer indicates a weak feeling of community. The entire cohort quantitatively feels a strong sense of community. This finding is supported by the qualitative data as every member of the

cohort responded that they felt they *fit in with the group* when questioned during the interview.

When asked during the interview if a social connection helps the student learn, 16 responded positively. The following are some of their responses: “I don’t think it is necessary, but I value it”, “I think it is important. Interaction with other people builds relationships”, “I would say that it is helpful and it depends on the individual. For me it is important”, “Yes, for me I think it is needed. I don’t want to feel like it is just one professor and me”, “I feel that we need an opportunity to bond with these people”, “I think we all need to help each other when we can. Nobody is going to be an expert in every subject”, “Absolutely!”

Three students responded briefly that they did not think that a social connection was important even though they individually selected at least 75% *True* answers (indicating a strong sense of community) to the statements of the SCI.

Conclusions

Learning as a community is important to this cohort of students even though they are scattered throughout the United States and Canada. The cohort met together as a group for their induction into their distance delivered doctoral program and they state that meeting face-to-face was instrumental in forming their sense of community. However, through the use of web-based communication tools their sense of community was able to flourish as the semester progressed. The cohort used a wiki, instant messenger, email, and web conferencing software to connect with each other on a routine basis.

Implications

Resident students can interact on a routine basis before and after class and in the hallways of their brick and mortar institution. Distance students do not have the ability to interact with each other without the use of some kind of communication assistance. It is critical for educators to encourage interaction among distance students and provide assistance in setting up communication channels to allow these students to build a sense of community among and with other learners. The results of this study concur with the literature as to the importance of a sense of community. The results of this study can be useful in the design of online delivered instruction programs.

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Demographic Analysis of FFA Members' Chapter Leadership Engagement

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Introduction/Need for Research

As a premier youth leadership organization, FFA has prepared future leaders through local, state and national activities. The FFA mission is: "The National FFA Organization is dedicated to making a positive difference in the lives of young people by developing their potential for *premier leadership*, *personal growth* and *career success* through agricultural education" (National FFA, 2005). Positive relationships exist between leadership skills and FFA participation (Wingenbach, & Kahler, 1997). FFA involvement has been shown to impact the success of community leaders regardless of their occupation (Brannon, Holley, & Key, 1989). FFA members were more engaged in school/community activities and career preparations than either non-members or typical high school students (Balshweid & Talbert, 2000).

Lofquist (1989) described the interaction between youth and adults in youth leadership organizations and identified that members are viewed as objects, recipients, resources, and partners. Ayers' (1987) identified four key developmental phases in which individuals engaged in a leadership curriculum should progress: self, interpersonal, groups, and community.

Conceptual or Theoretical Framework

The Theoretical Framework examines the role of members (Lofquist, 1989) and context of leadership activities (Ayers, 1987) as created by Peiter, Rennekamp, and Nall.

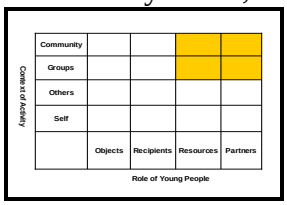

Figure 1. Conceptual Map for Theoretical Framework

Methodology

The purpose of this study is to describe chapter leadership experiences of rural FFA members participating in civic engagement activities. The objective is to describe the role of FFA members and context of leadership activities by gender, grade level, and chapter officer experience.

The population of this descriptive study was rural FFA members participating in civic engagement activities. The research developed an instrument based on the theoretical framework. Sixty-four questions were developed which reflect the context of leadership activities and member role in those activities. Demographic information was also attained. Respondents measured their chapter based on a four point Likert scale. Content and face

validity of the instrument was established using a panel of experts in the field of leadership development, NAAE Board of Directors, agricultural education pre-service teachers, and former FFA members. The instrument was pilot tested with FFA members in a non-selected state. Chronbach's Alpha: Objects ($\alpha = .71$), Recipients ($\alpha = .85$). Resources ($\alpha = .88$), Partners ($\alpha = .86$), Self ($\alpha = .72$), Interpersonal ($\alpha = .88$), Groups ($\alpha = .88$), and Community ($\alpha = .88$).

FFA chapters receiving National FFA Civic Engagement grants ($N = 15$) were selected for this study. Six hundred forty-six members in 12 chapters (75%) and responded. Research data were analyzed using SPSS 14.0 and descriptive statistics of frequencies, percentages, means, and standard deviations were reported for the two demographic areas.

Results/Findings

For member role, Partners was reported the highest from females (M=3.33) and males (M=3.13). Similarly, Recipients possessed the lowest mean score from females (M=3.10) and males (M=3.00). In terms of leadership through chapter activities, Self was reported the highest from females (M=3.34) and males (M=3.18), while Community was reported the lowest from females (M=3.10) and males (M=2.99). For member role, juniors reported the highest mean score as Partners (M=3.29), while the lowest was middle school as Recipients (M=2.96). For leadership activities, juniors reported the highest in terms of Self (M=3.32), while the lowest was seniors in Community (M=2.88). Students in FFA for 5 years reported member role as Partners (M=3.52) the highest while members in FFA for 6 years reported Objects (M=2.82) as lowest. For leadership activities, students with 5 years of FFA experience reported Self (M=3.46) as highest while students with 4 years of FFA reported the lowest in terms of Community (M=2.87).

Conclusions

Female members viewed each area for member role and context of activities greater than male members. Both female and male FFA members viewed partners as the greatest role in youth-adult relationships and self as the greatest context of leadership activities. Regarding grade level, Junior members viewed youth-adult partnerships greatest in three of the four areas, with partners identified the greatest. Leadership activities for Junior FFA members were greatest in three of four leadership areas, with self development the greatest. Members who served as a chapter officer believe their member role increases as they moved through the continuum, whereas context of leadership activities decreased.

Implications/Recommendations/ Impact on Profession

FFA chapters should continue to design activities that engage members as objects, recipients, resources, and partners in community based leadership activities; with the greatest emphasis on community partnership. Advisors must provide leadership in establishing meaningful chapter activities through a well developed Program of Activities (POA, as developed by the members). Further research must examine the FFA advisors' role in developing members' leadership skills through member role and context of leadership activities. In addition, the status of chapter planning through the POA must be examined.

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Keep the "Science" in Agriscience: The Importance of Science Integration into Agricultural Education

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Introduction & Theoretical Framework

In today's world of academic demands, educators are constantly searching for ways to improve their secondary students' standardized test scores. This problem is often compounded with higher graduation requirements set forth by state education agencies. Many states have already passed legislation calling for increased student achievement by setting higher curriculum, instruction, and accountability standards. Concurrently, public high school agricultural education classes are considerably changing their curricular structure in order to offset the significant drop in enrollment numbers (Hoover & Scanlon, 1991). Since the Hatch Act of 1887, science has played a role in agricultural education (Budke, 1991; Christian & Key, 1994; Hillison, 1996; True, 1929; Vaughn, 1993). Accordingly, the need for integrated lessons has never been greater.

Methodology

This study consisted of a content analysis of the *Journal of Agricultural Education* on articles that investigated science integration in to the agricultural classroom. The conclusions for each article were examined and then categorized. One research question guided this inquiry: who influences the successful integration of science in to an agricultural education program?

Results/Findings

Three groups that play a crucial role in the integration of science into agricultural science programs are: high school agricultural educators (Thompson & Balschweid, 1999), secondary level administrators (Thompson, 2001), and secondary level science teachers (Warnick, Thompson, & Gummer, 2004). First, collaboration between agricultural science teachers and colleagues at their schools as well as others will prove to be one of the most helpful tools in not only creating proper implementation plans, but continuing to raise the standards in the integration program. Second, principals often have substantial influence on the curriculum taught on their campus. With that being said, having the support of these administrators is vital to the integration of science into the agricultural science and technology programs. Anecdotal evidence suggests, when principals support and promote collaboration between all departments of a school it creates an environment of professional teamwork with the end result benefiting the student in the most positive way. Much of the focus should also be placed on the importance of support from school counselors. Although, limited research was found on the counselors' role in supporting integrating science in agricultural education classrooms, it would be unfair to say that counselors do not have a hand in the courses that high school students take during their academic career. Third, science teachers believed that agricultural classes are an applied science and that students enrolled in those courses will learn more when science concepts are integrated throughout the curriculum (Warnick et al.).

Conclusions

Based on the research consulted, it was concluded that integration of science in to agricultural education programs requires support from: (1) agricultural education teachers, (2) science teachers, and (3) school administrators. A model was created (Figure 1) to illustrate these conclusions.

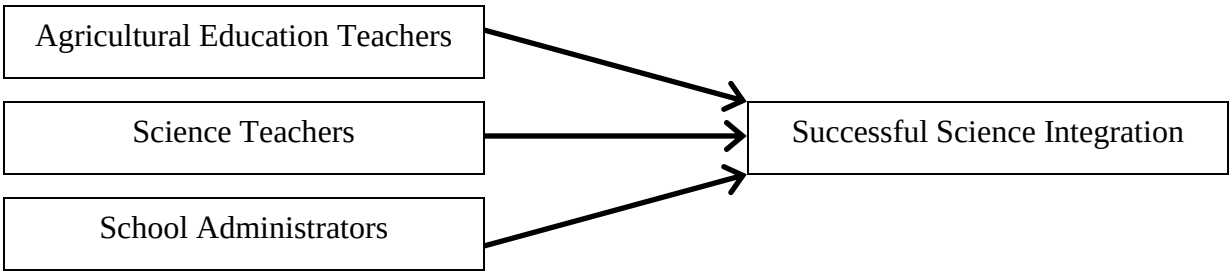

Figure 1. Model of support required for integration of science in to agricultural education.

Implications

What do we do now? It is obvious that we need to promote awareness of this opportunity. Beyond that, obtaining funding and equipment necessary to execute an efficient and successful curriculum would be a great start. Developing and offering workshops to prepare preservice and inservice teachers (both science and agricultural) in curriculum integration is necessary. As agricultural education teachers become properly prepared in ways to integrate science into their curriculum, it will become easier and integration will become second nature. Proper monitoring of the implemented integration would prove to be crucial for the effectiveness of the program and should be conducted by school administrators and university faculty..

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A Summation of the Preparation Level of First and Second Year Kentucky Agricultural Education Teachers

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Beginning Agricultural Education teachers face challenges in being knowledgeable in all facets of the agriculture and education industry. In addition to teaching an ever-changing subject matter in technical agriculture, additional responsibilities including advising members of a student organization, supervising student projects (also referred to as SAE), and managing the total Agricultural Education program (Peiter, Terry, and Cartmell, 2003; Ricketts, Duncan, Peake, & Uesseler, 2005). Melodia and Meyer (2001) identified that a well rounded prepared Agricultural Education teacher should be able to integrate the FFA and SAE components as natural extensions of the academic classroom.

Standardized examinations are utilized to assess what a pre-service Agricultural Education teacher should know. However, these tests provide little to no knowledge of the teacher's skill and competence level in regards to what the novice educator should be able to do.

Conceptual or Theoretical Framework

The theoretical framework for this study was the Herzberg's Motivation-Hygiene Theory. Herzberg conceptualized two components of motivation: 1) Hygiene (the job environment) and 2) motivation (what people actually do on the job). According to Herzberg, both hygiene and motivation occur at the same time. However, if beginning teachers are not adequately prepared for teaching, both the hygiene and motivator factors may prove to facilitate negative experiences in the classroom. This study seeks to identify how well beginning Agricultural Education teachers are prepared for their employment experiences.

Methodology

First and second year Agricultural Education teachers in a southern state served as the population for this study. Two years (2006 [n = 24] and 2007 [n = 23]) of first and second year teachers were used as the sample for the study. The data collection instrument (utilized and developed by the researchers) consisted of 41 statements seeking the perceived level of preparation, on a four-point Likert scale, in five Agricultural Education program areas:

program management (6), FFA (5), SAE (4), technical agriculture (12), and classroom instruction (13). Beginning Agricultural Education teachers had knowledge and/or experience for each statement, therefore asking each respondent to provide their perception. The response rate was 100% both years and data were analyzed using SPSS 10.0.

Results/findings

An increase of preparation level was made in four of the six areas evaluated in the program management areas. For the questions dealing with FFA, teachers believed they increased their level of preparation in four of the five areas: planning program of activities, preparing degree applications, planning conferences, and officer elections. Levels of preparation increased in three of the four SAE supervision areas. Three of the twelve areas of technical agriculture actually decreased from the evaluation once the teachers completed their first year. Those areas were Agronomy, Equine Science, and Agri-biology. On a positive note, teachers felt that their level of preparation had increased in nine of the eleven areas evaluated in classroom instruction.

Conclusions

In most areas, beginning teachers feel prepared to teach. Experienced teachers, finishing their first year of teaching Agricultural Education have a high level of perceived preparation than teachers currently entering the profession. Teachers feel most prepared to teach the Introduction in Agricultural Science or Animal Science courses. For most areas in technical agriculture, teachers believed that their efficacy level increased during their first year teaching Agricultural Education. Although, levels of preparation were high in most FFA areas, SAE supervision received mixed reviews depending upon the teacher.

Implications/recommendations/impact on profession

This research provides teacher educators of a southern state with an understanding of the preparatory practices needed within the profession and an opportunity to analyze our own curricula. It is our challenge to prepare pre-service Agricultural Education teachers for their first year teaching experience as well as the high demands of the ever-changing agriculture industry. Continued research is needed in evaluating the differences between preparation level at the start and end of the first year teaching experience. Additional research is needed in the correlation of efficacy levels in the teaching experience and the teacher's high school experience.

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Factors Likely to Create Safety-Conscious Equestrians in the 4-H Horse Program

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Introduction

Across the United States horseback riding is a popular activity for youth, many of whom participate in various activities within the 4-H Horse Program. The 4-H Horse Program is not limited just to horse owners, as it allows many youth who do not own a horse access to them through club activities and lease programs. Within 4-H and other youth horse activities such as the United States Pony Club, there is a push for all youth to wear helmets during mounted activities. In some states, it is mandatory that youth wear helmets during all mounted activities including horse shows, and in all states it is strongly encouraged. Substantial research has been conducted to determine the effects of wearing a helmet while mounted, attitudes toward helmets and how to foster helmet adoption. However, the area of ground safety has been neglected. According to the Children's Safety Network (2005), one in three equestrian-related injuries occurs while dismounted. It is imperative that more attention be diverted to this area. This study is an attempt to benchmark the current level of horse ground safety among participants in the North Carolina 4-H Horse Program.

Conceptual Framework

Experiential education, a concept that stems from the educational philosophy of John Dewey, is largely employed by 4-H. Dewey (1916) defined education as "that construction or reorganization of experience which adds to the meaning of experience and which increases the ability to direct the course of the future" (p. 76). According to Dewey and William James, experiential education is the most effective means for teaching youth practical knowledge (Boyd et al, 1992).

Methodology

In June 2007, 63 North Carolina 4-H Horsemanship Camp attendees participated in a mixed methods research project that focused on horse safety. Stakeholders in the North Carolina horse industry and the Cooperative Extension Service teamed up to conduct this study. The objective of this project was to determine if 4-H Horse Program participants possess the cognitive knowledge and psychomotor skills needed to remain safe while working around horses on the ground. Additionally, this project sought to determine whether factors such as taking riding lessons, owning a horse or competing in horse shows affected safety skills and awareness. Participating campers completed demographic information, a written test and a skills test. During the skills test, campers performed various tasks associated with working with a horse on the ground. The skills test was broken into three sections: stall safety, leading and grooming. Each camper's performance was observed and scored by a panel of trained horse industry experts.

Results

Sixty-three 4-H Horsemanship Camp attendees participated in the study, ranging in age from nine to 17. Of those, 65.5% have been involved in the 4-H Horse Program for three or less years. Approximately one-third stated that western is their primary riding discipline, and

over half mainly ride hunt seat. Horses are owned by 90.5% of participants or their families. The vast majority (84.1%) have taken riding lessons from a professional instructor at some point in their lives, and more than half (58.3%) currently take lessons. More than one-third have competed in 4-H horse shows.

Riding discipline was a determining factor in safety scores, as hunt seat riders posted higher mean scores than western riders in all three areas of the skills test. Previous lesson experience produced a negative correlation, but current lesson experience resulted in a positive correlation. Additionally, horse ownership did not translate into a higher safety score. Table 1 displays correlations between background factors and safety scores earned by camp participants.

Table 1
Background Factors Affecting Ground Safety Scores (N=63)

Factor	Leading *r*	Stall *r*	Grooming *r*
Which discipline do you ride primarily?	.206	.110	.212
Do you or your family own horses?	-.066	-.261	-.142
Have you ever taken riding lessons?	-.053	-.255	-.212
Do you currently take riding lessons?	.140	.085	-.024
Do you compete in 4-H horse shows?	-.036	.035	.106

Conclusion

Youth who participate in the 4-H Horse Program often spend countless hours in the saddle and interacting with horses on the ground. However, it takes more than horse exposure to develop a safety-conscious equestrian. Young riders need to receive regular training from experienced equestrians, such as lesson instructors, Extension specialists and 4-H club leaders. Additionally, more educational emphasis should be placed on ground safety knowledge and skills rather than assuming youth are only at risk when mounted.

Implications

The 4-H Horse Program has a responsibility to promote a safety-conscious environment. Safety in mounted activities, primarily through the use of a helmet, often receives the lion's share of attention, but it is necessary for Extension specialists, horse program volunteers and parents to take the initiative to educate youth on matters relating to ground safety.

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The Effects of Reading Strategies upon Student Achievement through the Content Area of Agricultural Education

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Introduction / Need for Research

The U.S. Department of Education (2003) reports in 2002 more than eight million students in grades 4-12 were struggling readers. For this reason and others, reading initiatives were endorsed such as the No Child Left Behind Act of 2001, enacted nationally, and the STATE adopted STATE Reading Initiative. The STATE Reading Initiative is a K-12 research based, school wide project committed to providing the training, knowledge and support necessary for schools to reach 100% literacy (NEFEC, 2001). Teachers in all content areas, including agricultural science, face mounting pressure to incorporate content area reading strategies (CARS) into their curriculum (Moje, 1996; Park & Osborne, 2006; Snow 2002). As Parks and Osborne (2006) imply, agriscience teachers have a responsibility to incorporate reading strategies into the curriculum because "all teachers are teachers of reading" (p. 47).

STATE Best Practices Center assembled six CARS known in the Levy School District as The Essential Six. The Essential Six were chosen by the NEFEC to consolidate the possible strategies into a smaller number of high yielding strategies which can be used by all teachers in any content area. The six strategies included in the Essential Six are: 1) Preview, Access and Set the purpose (PAS); 2) Question-Answer Relationship (QAR); 3) Summary Frames; 4) Concept Maps; 5) Column Notes; and 6) Reciprocal Teaching (NEFEC, 2001).

Conceptual Framework

Content area teachers, such as agricultural educators, are encouraged to infuse lessons with CARS to reach as many students as possible for several reasons. First, the use of CARS builds a foundation for the subject upon which the students and teachers can expand (Moje, 1996) Secondly, regardless of a person's age or skill level, he/she can learn new reading skills which will improve his/her overall skill (Snow, 2002). Finally, the interaction of the teacher with his/her students and the attitudes the teacher exhibits towards CARS strongly influence the students' acceptance of and success with CARS (Moje, 1996; Snow 2002)

Methodology

The population of this study was composed of two classes of high school agricultural students enrolled in Agriscience Foundation ($N = 50$). This study employed a quasi experimental design in which each class was randomly assigned to either treatment ($n = 25$) or control ($n = 25$) group. This nonrandomized control group and pre-test-post-test design allowed for the use of the Essential Six strategies to be evaluated in the acquisition of student knowledge on the subject matter.

A pre-test was administered to the class before instruction to establish a base line to measure content knowledge levels in the subject mater. The variable was used as a covariate measure in analysis. The treatment group received instruction of the lesson with the Essential Six

strategies infused throughout. The control group received instruction of the lesson without use the Essential Six strategies. At the end of the unit the post-test was administered.

Results / Findings

No significant difference was found between groups due to demographic variables of ethnicity, gender, state standardized test score, or participation in the school lunch program. The mean overall score out of 100 possible points on the pre-test was 36.58, with a range of 64 and a standard deviation of 15.51. The mean overall score out of 100 possible points on the post- test was 70.52. This administration of the instrument had a range of 60 and a standard deviation of 15.51.

When the two groups were compared the mean of the pre-test for the control group was 40.88 with a standard deviation of 17.44. The mean of the pre-test for the treatment group was 32.28 with a standard deviation of 12.18. In comparison the post-test mean for the control group was 72.72 with a standard deviation of 15.91. The post-test mean for the treatment group was 69.32 with a standard deviation of 15.10. Using the covariate of content knowledge pretest score, the effect of treatment was found to not be statistically significant, $F(1, 47) = 0.30$, $p = .59$. Therefore, the null hypothesis failed to be rejected.

Conclusions / Recommendations

The finding that the use of the Essential Six content area reading strategies neither aided nor harmed the students' content knowledge achievement is important to agricultural education. This investigation's findings show that CARS can be implemented in the agricultural education classroom without negatively impacting subject matter comprehension, thus providing the opportunity for the agricultural education courses to contribute in a positive way to the goals of the overall school community and still meet course goals.

Even with a strong methodological foundation, the sample size of the study limits the ability for generalizations of the findings. It does, however, suggest that further research into teaching strategies is needed for content teachers to be at their best. It is recommended that further research in this area of inquiry be completed in agricultural education as well as other areas of career and technical education. These future investigations should include larger sample sizes to aid in generalization of results.

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Strategies Used by Agricultural Science Teachers to Serve Secondary Students with Disabilities

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Introduction

The Individuals with Disabilities Education Act Amendments of 1997 (PL 105-77) require that students with disabilities have access to the general curriculum. The Carl D. Perkins Vocational and Applied Technology Act of 1990 (PL 101-392) mandated equal access to career and technical education for students from special populations, which include students with disabilities with more recent re-authorizations of Perkins increasing emphasis on special populations. According to the Texas Education Agency (2003) 90,109 students were enrolled statewide in agricultural sciences, accounting for 10% of the total secondary career and technical education enrollment. During the 2001-02 school year, students with disabilities accounted for 20.98% of enrollment in secondary agricultural sciences (Texas Education Agency, 2004a), while students with disabilities only accounted for 11.7% of the overall secondary (grades 7-12) enrollment (Texas Education Agency, 2004b).

Elbert and Baggett (2003) recommended additional training in teaching techniques for agricultural science teachers who taught students with disabilities. Administrators from Texas Educational Service Center Regions 8 and 10 ranked the skill *modifying instructional techniques for students with disabilities* ninth out of 49 total skills in which agricultural science teachers were expected to be competent (Taylor, 2001) indicating a high priority of importance for teacher preparation.

Methods

This is a descriptive study related to strategies that secondary agricultural science teachers use to serve students with disabilities. Direct-mail survey techniques prescribed by Salant and Dillman (1994) were used for data collection with strict adherence to the guidelines of the Institutional Review Board on Human Subjects. The study determined the effectiveness and frequency of use of each strategy, as perceived by the respondents. The population consisted of all secondary agricultural science (*N = 333*) within Texas Educational Service Center Regions 8 and 10. A researcher-developed direct-mail questionnaire was used to collect data from a randomly selected sample consisting of 2/3 of the population. Fifty nine (27.0%) agricultural science teachers responded. The questionnaire included a series of strategies collected from special education documents including Individualized Education Program, Individualized Transition Plans, and modification sheets provided to agricultural science teachers. Content analysis was used to identify 75 individual strategies that had been recommended for use by secondary agricultural science teachers. Each strategy statement was accompanied by a *Frequency of Use* scale and an *Effectiveness* scale. A reliability coefficient of .96 in the form of *Cronbach's* alpha for the 75-item *Effectiveness Scale* was

found, thus confirming very reliable results. Data were analyzed for this presentation to answer the following research questions:

-What strategies for students with disabilities used by agricultural sciences teachers are perceived as most effective?

-How often are specific strategies for students with disabilities used by agricultural sciences teachers?

Results

Answers to the research questions will be reported in the poster in a *Top Ten* format, indicating the ten most frequently used strategies and the ten most effective strategies, as perceived by secondary agricultural sciences. Based on mean scores for all strategies, *giving oral directions* was the most often used strategy and *clearly defined limits* was the most effective strategy.

Conclusions

There are many strategies for serving students with disabilities recommended for use by secondary agricultural science teachers. Data analyzed and reported indicate that some strategies are perceived as being very effective and are used frequently.

Implications

Preservice and early career teachers should be introduced to the most effective strategies and encouraged to master the use of these in the inclusive setting. Further investigation of the relationship between the individual strategies and nature of the disabilities encountered within each teacher's classes should also be considered.

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Codifying the Wisdom of Expert Teacher Practice in Agriscience Fair Projects

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Introduction/Need for Research

As agricultural education builds upon its case that it provides scientific instruction through agriscience curricula it becomes important to bring scientific inquiry to the agriscience classrooms. Examination of work completed in science education becomes necessary to begin to develop learning of a science nature in agriscience classes. A report by the American Association for the Advancement of Science [AAAS] (1990) stressed scientific inquiry as the mode of instruction. The *National Science Education Standards* (National Academy of Science, 1996) also states inquiry based instruction key to successful science instruction. Agriscience fair-type projects may be a way to meet these goals.

The purpose of this investigation was to codify wisdom of teacher practice of expert agriscience teachers in agriscience fair project development and management. This research was guided by the following objectives:

1. Identify the characteristics of exemplary agriculture teachers in the area of agriscience fair project management.
2. Determine the problems of teaching practice in the development and management of agriscience fair projects experienced by expert teachers.
3. Explore the ways in which expert teachers reflect upon and solve the problems associated with the unique practice of developing and managing agriscience fair project programs.
4.

Conceptual/Theoretical Framework

The study was framed conceptually by Shulman's (2004) assertions regarding the wisdom of teacher practice. As such, the practice of effective practitioners should be codified to create grand theories of teacher practice for a broader audience of practitioners. The study was theoretically framed around the coded differences between expert and novices in regard to the schemas that they have adapted for identifying, analyzing, and subsequently approaching problems associated with their particular craft or profession. More specifically the notion of expert teacher thinking (Redish, 1996), illustrates that expert teachers have a different schema for the problems of teaching that they identify and the ways that they solve those problems, and they can think about how learners think most effectively. This study attempted to codify the wisdom of practice of expert agri-science teachers in regard to their approach to incorporating agriscience fairs projects within the total schema of student learning.

Methodology

This was a qualitative case-study investigation conducted through an interpretivist epistemological paradigm. The participants were purposively selected based upon expertise in agriscience fair participation. Expert teachers were determined based upon having the most individual student participants in national agriscience fair competition within the past five years. Eleven teachers across the nation participated in an hour long phone interview, a follow up reflection, and submitted agriscience fair materials for document analysis. All one-to-one interviews transcriptions were coded for emerging themes based on the research questions. Credibility, transferability, dependability, and confirmability were established through the use of peer debriefing, transcriptions of interviews, direct quotes, triangulation, thick description, and an audit trail (Donmoyer, 2001; Lincoln & Guba, 1985). All interview and reflection questions were constructed from a review of the literature for credibility.

Results/Findings

Six major themes (with sub-themes) emerged from the expert agriscience teachers:

1. Supervised Agricultural Experience (Agriscience based SAE programs and Agriscience supplements to "traditional" programs)
2. Partners (University faculty, other teachers (science, English, and math), and community members)
3. Motivation (Competition, reputation, and sense of purpose/success)
4. Curriculum (Agriscience focused curriculum and teaching methods)
5. Project Development (Project idea generation, multi-year projects, and management of projects)
6. Value of projects (Life skill development and public relations/support)

Conclusions

- Expert teachers conceptualized agriscience projects into three broad categories: how they manage them day to day, how they approach motivating students, and how the science fair fits into and enhances their program.
- Teachers saw agriscience as a competition others saw it as a vehicle for integrating science into all aspects of their teaching. Thus, their approach to agriscience impacted how they defined the agriscience fair as either driven by competition, or driven by opportunity to learn about science.
- Agriscience projects were a vehicle for teaching inquiry, as the entire program was based on problem-solving instruction framed by the science fair projects.
- Life skill and problem-solving/thinking skill development was a positive outcome of the agriscience projects.

Implications/Recommendations/ Impact on profession

Agriscience projects could be viewed as a modern manifestation of the traditional "three circle model" of agricultural education. The agriscience project was the intersection at which all three major components, Instruction, SAE, and FFA, met. A synergy was created by which each was more effective, more efficient, and more impactful through its interaction with the others.

This information should be shared with the leadership of current national agriscience curriculum projects. Agriscience fair-type projects should be included as a major component of this curriculum. Whereas, a lack of understanding of these types of projects by the general teacher population was noted, there is a need for professional development materials to be developed and shared with all teachers on how to implement the themes identified in this study on a larger scale. Furthermore, a quantitative study of these themes should be conducted to investigate their generalizability.

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Who is living where: An assessment of students volunteering to live in a residential learning community or other on-campus resident housing.

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Introduction

Learning communities are quickly becoming one of the most discussed topics on college campuses today. According to Lenning and Ebbers (1999), residential learning communities organize on-campus living arrangements so that students taking two or more common courses live in close physical proximity, which increases the opportunities for out-of-class interactions and supplementary learning opportunities. These communities have been shown to have a significant impact on student success. Studies have linked residential learning communities with greater social interaction, involvement, and higher graduation rates (Blimling, 1993; Pascarella, Terenzini & Blimling, 1994).

With the rise in interest and establishment of these communities it is important to analyze which students are drawn to them in order to determine recruitment strategies and community effectiveness. College recruitment strategies have become increasingly far reaching and for some, the learning community could prove to be a huge draw. The purpose of this poster is to compare characteristics of freshmen in a learning community with those not in a learning community.

Methodology

The population for this study was incoming freshmen in the College of Agriculture and Natural Resources who live in resident housing at Texas Tech University.

The data was collected using the 2007 CIRP Incoming Freshman Questionnaire developed by UCLA. The questionnaire was distributed to all 211 students in the population within the first week of the semester. Of the 211 questionnaires distributed 127 were completed and returned which results in a 60.2% response rate.

Data was collected on 41 different variables including various demographics, academic achievement, social history and time management. Data was computed using the SPSS software program to determine which variables differed between those students who chose to live in the learning community and those who chose alternative resident housing.

Results/Findings

Table 1 contains the characteristics that were observed for the students surveyed.

Table 1. Characteristics of Subjects

	Learning Community		Other Resident Housing	
Gender				
Male	22	(45.8%)	38	(55.9%)
Female	26	(54.2%)	30	(44.1%)
Age as of December 31, 2007				
17	1	(2%)	1	(1.5%)
18	37	(75.5%)	38	(55.9%)
19	11	(22.4%)	24	(35.3%)
20+	0	(0%)	5	(7.4%)
High School graduation year:				
2007	50	(100%)	59	(86.8%)
2006	0	(0%)	7	(10.3%)
2005 or earlier	0	(0%)	2	(3%)
High School Type:				
Public School	50	(100%)	57	(83.8%)
Public Charter or Magnet	0	(0%)	2	(3%)
Private, Religious	0	(0%)	4	(5.9%)
Home School	0	(0%)	5	(7.4%)
Previously earned credit at TTU				
Yes	6	(12%)	9	(13.4%)
No	44	(88%)	58	(86.6%)
Previously earned credit at other institution				
Yes	20	(40.8%)	23	(33.8%)
No	29	(59.2%)	45	(66.2%)
Accepted by first choice college				
Yes	48	(96%)	59	(86.8%)
No	2	(4%)	9	(13.2%)
Was choice was TTU				
First Choice	47	(94%)	52	(76.5%)
Second Choice	3	(6%)	16	(23.5%)

Conclusions and Recommendations

All subjects were found to be relatively homogenous. However, there seemed to be more variation within the students who lived outside of the learning community. Although these variations were limited, more research could help explain this relationship. The students living in the learning community were similar to those outside the community in graduation year, previously earned college credit, and percent accepted by first choice college. Despite these similarities there was a significant difference with more females and students who chose TTU as their first choice volunteering to live in the learning community.

Further research should be done to determine why the stated differences occurred and if this data is representative of larger populations. From the findings, it is suggested that recruitment strategies be developed to recruit more "non-traditional" students to live in the learning community. It is also suggested that a longitudinal study examining the effects of living in this learning community for an academic year be conducted.

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Extension Education within the Land-Grant University System

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Introduction

Cooperative Extension is a dynamic organization that seeks to meet the needs of a constantly changing society. Its ability to be successful in this mission is largely dependent upon the professional abilities of the extension agents interfacing with clientele (Stone & Coppernoll, 2004). Enrolling in an extension education undergraduate or graduate degree program is one way that agents prepare themselves for employment, yet little research has been conducted regarding the academic preparation of agents.

Conceptual Framework

The Ohio State model of extension education developed by Scheer, Ferrari, Earnest, and Connors (2006) was used as a framework for this research. The Ohio State model proposed aligning undergraduate and graduate courses with ten competency areas in which extension agents should be skilled. The competency areas are: (a) organizational knowledge, leadership, and management, (b) technology, (c) communication, (d) program planning, implementation, and evaluation, (e) applied research, (f) diversity and pluralism, (g) marketing and public relations, (h) theories of human development and learning, (i) risk management, and (j) community development process and diffusion.

Methodology

The purpose of this descriptive study was to develop an overview of extension education programs within the land-grant university system. The objectives of the study were to describe (a) the land-grant universities (LGUs) which offer extension education as a major, minor, master's, and/or doctoral degree, (b) the availability of distance-based extension education programs within the LGU system, and (c) the types of extension education courses offered at the undergraduate and graduate levels. This descriptive study used content analysis (Gall, Gall, & Borg, 2007) to gather data from the Web sites of LGUs. A census of the 1862, 1890, and 1994 LGUs was conducted in September 2007. The population for the study was restricted to the primary campus of each LGU. There were 75 LGUs and 33 tribal colleges included in this population. Only LGUs which *clearly* designated an extension education major, minor, concentration, program, emphasis, or specialization were considered to be formal providers of extension education.

Results/Findings

There were 19 LGUs that offered some type of academic program in extension education. Of these universities, 10 offered a major and six offered a minor in extension education. Eighteen LGUs offered a masters degree in extension education, while 12 universities had a doctoral program. Only Colorado State University, University of Florida, Louisiana State University, New Mexico State University, and North Carolina State University offered distance-based extension education programs.

The researchers identified 126 courses offered at the undergraduate level. The most frequently offered courses were in three competency areas: extension knowledge, leadership, and management (n = 37), theories of human development and learning (n = 19), and program planning, implementation, and evaluation (n = 16). There were 221 graduate courses listed for extension education. The most frequently offered courses were in the competency areas of applied research (n = 45) and theories of human development and learning (n = 37). Courses were least commonly found for risk management and marketing and public relations, at both the undergraduate and graduate levels.

Conclusions

Extension education programs were offered at nineteen land-grant universities (LGUs). Masters programs were the most common type of extension education program offered, followed by PhD programs. Only ten LGUs offered a major in extension education, while even fewer offered an extension education minor. The University of Maryland, Eastern Shore, was the only historically black college with a formal extension education program. The tribal colleges did not have any formalized extension education.

A variety of courses were offered in extension education. Topics related to (a) extension knowledge, leadership, and management, (b) theories of human development and learning, and (c) program planning, evaluation, and implementation were most common at the undergraduate level. Applied research courses were common at the graduate level, in addition to the aforementioned undergraduate course categories.

Implications/Recommendations

There appears to be a shortage of extension education programs offered nationwide, particularly at the 1890 and 1994 land-grant institutions. Without an extension education program offered at some level (whether undergraduate or graduate), students may fail to become fully aware of the career opportunities within Cooperative Extension. The number of distance-delivered programs falls far short of covering the needs of current and future extension agents, too.

The findings from this study indicate a deviation from the diverse framework proposed by Scheer et al. (2006). The high number of courses within a small number of competencies (at the graduate level, 67% of all courses resided within four competencies) implies that some competencies are perceived to be more important than others. LGUs with extension education programs are encouraged to critically examine their own curriculum to determine the appropriateness of their courses and the viability of offering courses online.

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Providing a Safer Consumer Product: Will Beef Cattle Producers Take the Next Step?

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Need for Research

Recent outbreaks of food borne illnesses have been linked to contaminated produce such as lettuce and spinach (CDC, 2007). The seriousness of these outbreaks highlights the need to prevent such contamination. A reservoir of *E. coli* O157:H7, an organism known to cause serious and potentially fatal illness, is the bovine intestinal tract (Grauke, 2002). This means that shedding of this pathogen in feces occurs during all stages of the bovine's life (Jennings, 2006). Efforts to decrease the incidence of *E. coli* O157 in ground beef have been successful; however contamination of other foods has become a problem (CDC, 2007). This should be cause for concern among beef cattle producers because *E.coli* O157 shed in bovine feces can contaminate produce when manure is used as fertilizer or when pathogens from feces seep into groundwater. Food and animal scientists have developed interventions that beef cattle producers can implement to reduce *E. coli* shedding in live cattle. The utilization of these pre-harvest practices by beef cattle producers should increase the safety of food products for consumers.

The National Research Agenda for Agricultural Education and Communications (2007) indicates a research priority area of identifying the "needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education". Additionally, a priority initiative within this research area is to "identify the technical agricultural needs of practitioners in various cultural and societal settings" (p. 14)

The purpose of this needs assessment was to determine beef cattle producers' attitudes and behaviors toward pre-harvest food safety. The research objectives were to determine the attitudes and behaviors regarding pre-harvest food safety of beef cattle producers attending the 2007 Cattle Industry Annual Convention and National Cattlemen's Beef Association (NCBA) Tradeshow, and explore the relationship between the two.

Theoretical Framework

The Theory of Planned Behavior asserts that human behavior is led by three primary beliefs; behavioral, normative, and control (Ajzen, 2002). Behavioral beliefs produce an attitude toward a behavior, normative beliefs refer to perceived social pressures to act a certain way, and control beliefs refer to an individual's perceived control over the situation (Ajzen, 2002). Ajzen (2002) proposed that these three beliefs combine to form an intention, and ultimately an action, or behavior. The more favorable behavioral and normative beliefs and greater the perceived control, the stronger the person's intention to perform the behavior should be (Ajzen, 2002). In this study, the more positive beef cattle producers' attitudes toward pre-harvest food safety, the stronger their intention to perform pre-harvest food safety behaviors should be.

Methodology

This was a quantitative, descriptive/correlational study. The data for this study was collected at the 2007 Cattle Industry Annual Convention and National Cattlemen's Beef Association

(NCBA) tradeshow, February 1-2, in Nashville, Tennessee. Researchers used a convenience sample limited to a desired population. Four hundred sixty one instruments were collected. Two hundred eighteen of those instruments were correctly completed by beef cattle producers. The instrument used was previously developed for use by Jennings (2006). Content and face validity were previously established. The instrument collected data for numerous studies. Section C was the only section pertaining to this study. The Cronbach's Alpha reported for this section was .92 (Jennings, 2006).

Findings

A 4-point Likert scale was used to obtain respondents' attitudes on five questions and behaviors on six questions. Mean scores for attitude statements ranged from 3.00 to 3.66, indicating a positive attitude toward pre-harvest food safety. Mean scores for behavior ranged from 2.71 to 3.16. A Pearson-product moment correlation was calculated to describe the relationship between attitude and behavior scores. The correlation coefficient calculated was .65. This indicates a substantial (Davis, 1971) positive relationship. The r^2 value is .42. This coefficient of determination indicates that 42% of the variance in one variable can be explained by variance in the other variable.

Table 1
Attitudes and behaviors of beef cattle producers regarding pre-harvest food safety

Statement	*n*	Mean (*M*)	SD
Attitude			
1. I believe that pre-harvest efforts to reduce pathogens are important	213	3.22	.79
2. Others expect me to provide a safe beef product	215	3.66	.63
3. I am ultimately responsible for the image of the beef industry as it is portrayed to the public	214	3.60	.65
4. It is mostly my responsibility to reduce the number of pathogens in beef and beef by-products	214	3.07	.82
5. It would be possible for me to have an impact on the number of food-borne illnesses in the United States	213	3.00	.90
Behavior			
6. I deliberately look for better ways to make beef products safer	215	3.16	.79
7. I encourage colleagues in the food industry to adopt new food safety interventions	212	3.02	.82
8. I am up-to-date on current beef industry research regarding food safety	213	2.71	.88
9. I currently advocate using pre-harvest interventions that reduce the occurrence of pathogens in beef	213	2.74	.85
10. I will contact my government representatives to voice my opinion when it is important	214	2.88	.87
11. I have changed practices in my business to improve the safety of the beef we produce	214	3.09	.86

Conclusions

The substantial positive relationship found between beef cattle producers' attitudes and behaviors regarding pre-harvest food safety supports the Theory of Planned Behavior. The more favorable a beef cattle producer's attitudes and beliefs regarding pre-harvest food safety, the stronger the person's intention to perform the food safety behavior. Educators can utilize the relationship between attitudes and behaviors in the development of educational materials for beef cattle producers which could have a positive impact on beef cattle

producers' adoption of pre-harvest food safety measures, and in turn have a positive effect on the reduction of food borne illnesses.

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Seven Years of Stakeholder Evaluation Trends Regarding Experiential Learning

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Introduction

Residential camps for youth provide a unique setting to enhance life skill development through experiential learning. Evaluating this experience is essential to providing consistent quality programs for youth. Parents are important partners in the evaluation process because they can offer insights into behavior changes before and after the camp experience. Virginia Tech faculty collaborated with camp directors from Virginia's 4-H centers to develop a standardized multi-year, multi-site camp evaluation model. A different sample of camper parents were surveyed in 2001, 2004, and 2007 to determine if life skills learned at camp impacted behavior changes when campers returned home.

Theoretical Framework

This study explored trends in parent satisfaction with the camp experience and their perceptions of the developmental outcomes attributed to camp participation. The study was grounded in a youth development model that emphasizes the developmental assets of youth. The Targeting Life Skills (TLS) Model (Hendricks, 1996) has been cited in studies in the agricultural education and leadership fields and provided the conceptual framework for the development of the parent questionnaire. The TLS model, which identifies specific, measurable outcomes on which youth development programs can be evaluated, has been successfully used in previous research to evaluate camp outcomes (Arnold, Bourdeau, & Nagele, 2005; Garst & Bruce, 2003; Hines & Riley, 2005). Applying the TLS model in this study on trends in parental self-reports of the impact of experiential learning at camp will benefit the agricultural education field by providing a model for involving stakeholders in the evaluation of experiential based youth programs across multiple sites over time.

Methods

A random sample of male and female campers, ages 9-13, from each of six 4-H centers was selected. A questionnaire was mailed to the sampled parents/guardians (2001, n= 363; 2004, n=326; and 2007, n=318) two weeks after camp. A follow-up post card was sent four weeks later to increase response rate (Dillman, 2007). The parent survey included questions regarding satisfaction with camp, intentions to continue participation, and a 24-item retrospective pre/post-test questionnaire that assessed life skill behavior change across eight domains of the TLS Model: living, being, giving, caring, relating, thinking, managing, and working (Rockwell & Kohn, 1989).

For each year, paired t-test comparisons were made between each of the "before camp" and "after camp" means. A comparison of mean ranks of life skill behavior impacts across all three data sets was constructed to examine changes in parent perceptions. Additionally, the male and female campers were compared separately using paired t-tests to compare before and after means. Additionally, principal component factor analysis (Crocker & Algina, 1986) was used to verify construct validity and reliability of the instrument.

Results

In 2001, the top six ranked life skills were: "takes care of his/her own things," "shares work responsibilities," "takes initiative and is a self-starter," "takes responsibility for his/her own actions," "handles successes and failures," and "has a good mental attitude." In 2004, the top six ranked life skills were: "shares work responsibilities," " tries to find answers to questions," "takes responsibility for his/her own actions," "adapts to change," "listens to the opinions of others," and "tries to find solutions to problems." Similarly, in 2007, the top six ranked life skills were: "shares work responsibilities," "takes care of his/her own things," "has a good mental attitude," "listens to the opinions of others," "deals effectively with conflict," and "considers choices before making a decision."

Similarities and differences between life skill outcomes for male and female campers were compared. Male campers tended to have a greater degree of change (2004 & 2007) than female campers (as indicated by gain scores). Similarities were marked by a sharing each year of two of the top seven life skill outcomes by male and female campers. These shared outcomes included "shares work responsibilities," and "takes care of his/her own things." These similarities indicate individual camper (rather than gender-related) benefits as perceived by parents/guardians and implies an appropriateness in activities and curricula within the camping structure for both genders.

Conclusions

According to parents/guardians, youth who participated in experiential learning opportunities at camp set priorities and goals, take responsibility, participate in discussions, and are cooperative team players following exposure to camp. The overall camp program has consistently increased camper life skills over seven areas. The top two life skills, "shares work responsibilities" and "takes care of his/her own things" have been the most consistent. These results show an overall program quality from year to year despite normal changes in staffing, food, facilities and activities.

Practical Applications

Utilizing a standardized survey over time and across sites can be a useful way to measure program outcomes in an experiential learning environment. Comparing results of standardized surveys may also reveal important differences within participant groups based on gender, age or some other criteria. Looking beyond participant evaluation to other stakeholder groups such as parents can yield important information for triangulation with camper data. A systematic approach to tracking yearly activity changes may help explain exactly how different life skills are impacted. This study provides a model for evaluating youth outcomes in multi-site non-formal and experiential learning programs with stakeholders. Consistent, rigorous evaluation over time provides measures of overall program quality and consistency, providing decision makers with valuable program outcome information.

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An Assessment of Minor Crop Producers' Extension and Education Needs

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Introduction

Cooperative Extension (CE), with its rich history that spans more than a century of service, has been potentially the only source for research based knowledge that producers receive through demonstration and educational programs (Seevers, Graham, Gamon, & Conklin, 1997). Today there are now many sources that producers may choose from to obtain crop production information. Therefore, Extension educators must assess producers constantly to ensure they are meeting their research and educational needs (Kotile & Martin, 2000). Assessment of producers has shifted to two-way communication channels between Extension educators and producers in agriculture in the twenty-first century (Greene, 1988).

Theoretical Framework

The extent to which Oklahoma minor crop producers use CE varies just as different audiences rely on the adaptation of various communication strategies in order to learn new knowledge (Lionberger & Gwin, 1982). The theoretical framework for this study was stakeholder engagement (Greene, 1988). Combining information, views, and needs of producers with Extension educators in planning programs allows stakeholders to influence the direction of the programs and the method of program delivery to insure participation and success (Lionberger and Gwin, 1982). Stakeholder engagement in the decision-making, planning, and implementation processes is important in order to meet the needs of stakeholders and to provide them with a voice in regards to CE education programs and the dissemination of land-grant university and CE publications.

Purpose and Objectives

The purpose of this study was to determine the use and needs of CE and to discover where producers obtain crop production information. The specific objectives of this study were to: 1) Identify the types of events that Oklahoma minor crop producers attended to learn about crop production and 2) Discover preferred delivery methods to aid producers in obtaining Cooperative Extension crop production information.

Methodology

A two-step survey method (Dillman, 2000) was used to collect data for this study. The population for the study consisted of 6,870 Oklahoma producers who grew one or more of the following crops: cotton, soybeans, field corn, sorghum, or peanuts in 2006. The sample was drawn from the population (N = 6,870) and consisted of a randomly stratified sample (n = 1,899) based upon the crop. The self-administered mailed survey was checked for face, content, and construct validity by a panel of experts consisting of faculty employed by the land-grant university with expertise in entomology, plant pathology, and plant and soil science. Expert panels are used to prevent measurement error that occurs in survey research (Lindner, Murphy, & Briers, 2001). Four hundred and seventy-one (471) of the 1,899 surveys were returned of which 223 valid surveys were usable, thus providing a response rate of 12 percent.

Results/Findings

Minor crop producers attended CE field days most frequently, followed by crop consultant programs and visits to learn about crop production information. More than 50 percent of the producers worked with CE personnel to learn about new production practices and communicated most with their local county Extension educators followed by their area Extension specialists. Sixty-seven percent of the producers noted that they used Cooperative Extension to obtain crop production information followed by seed suppliers/dealers and crop consultants. Producers used many other sources to obtain information including friends, family, other producers and newsletters. Producers indicated that there are various ways in which they would like to receive communication and crop production information from CE. Newsletters were requested most followed by weekly bulletins on crop production issues and field day workshops and programs.

Conclusions

Conclusions drawn from this study include: 1) CE may not be marketing educational programs effectively to meet the educational meets of minor crop producers. 2) Local Extension educators are not actively engaging stakeholders frequently enough to assess their needs and to establish relevant programs and field days. 3) Extension educators should discover why producers are seeking out crop consultants over Extension for crop production information. 4) Producers prefer receiving Extension information in the mail in newsletter format to new electronic formats.

Implications/Recommendations

To remain effective for the next century, Extension educators must market their educational programs more effectively to reach targeted producers. Extension educators should engage local producers and conduct formal needs assessments before developing their programs. The needs assessment should determine gaps in knowledge or training and the preferred methods of information exchange and training. Furthermore, Extension educators must invest in producing crop production materials in formats to meet producers' preferences. The future success of Extension relies on quality and in-depth stakeholder engagement in order to provide relevant research-based programs to producers and other CE stakeholders.

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Understanding the Strengths of our Future Agricultural Leaders

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Introduction

The National Research Agenda for Agricultural Education and Communication includes a research priority to "Recruit and prepare students for the future workforce in the agricultural and life sciences" (Osborne, 2007, p. 16). Another research priority area focuses on "leader succession in sustaining agricultural enterprises" (Osborne, p. 12). With these priorities in mind, it is helpful to consider who these students and future leaders are and what strengths they bring to the field. One place to look is among emerging leaders from high schools around the country.

The Virginia Governor's School for Agriculture (VGSA) is a month-long residential academic program for high school juniors and seniors. VGSA students attend classes on Virginia Tech's campus and complete small group research projects in the areas of agricultural economics, agricultural leadership, animal science, natural resources, plant science, and veterinary medicine. VGSA students are selected competitively by application from Virginia's public, private, and home schools ("Virginia Summer Residential Governor's School for Agriculture," 2006). Attendees at the 2007 VGSA completed several leadership assessments, including the Clifton StrengthsFinder, a tool for indentifying personal talents.

Conceptual or Theoretical Framework

The Clifton StrengthsFinder is based on Strengths Psychology (Rath, 2007), which has its roots in Positive Psychology, "the pursuit of understanding optimal human functioning" (S. Lopez, 2006, para 1). "The aim of positive psychology is to catalyze a change in psychology from a preoccupation with repairing the worst things in life to also building the best qualities in life… At the individual level it is about positive personal traits—the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future-mindedness, high talent, and wisdom" (Seligman, 2007, p. 3).

When applied with students, the Clifton StrengthsFinder assessment is part of an overall program for developing personal talents into strengths. The StrengthsQuest Program asserts that 1) everyone has talents, 2) a person's greatest talents hold the key to personal excellence, 3) becoming aware of talents builds confidence, 4) learning to develop and apply strengths improves levels of achievement, 5) each talent can be applied in many areas, and 6) achievements increase as a person develops and applies their personal strengths (Anderson, 2004).

Methodology

As part of their core curriculum, the 91 participants in the 2007 Virginia Governor's School for Agriculture completed the Clifton StrengthsFinder as an Online measure of personal talent. Participants received immediate feedback and ranking of their top five signature themes (areas of talent). Their complete ranking was collected by The Gallup Organization, which then prepared a composite ranking for the entire group.

The Clifton StrengthsFinder is composed of 180 item pairs, groups into 34 themes of talent. For a detailed discussion of validity and reliability, see *The Clifton StrengthsFinder Technical Report: Development and Validation* (S. J. Lopez, Hodges, & Harter, 2005).

Results/Findings

For the 2007 Virginia Governor's School for Agriculture group of scholars, the top five signature themes (or areas of talent) and descriptions (quoted from "StrengthsQuest reference card," 2000) are as follows:

- **Achiever:** People especially talented in the Achiever theme have a great deal of stamina and work hard. They take great satisfaction from being busy and productive.
- **Learner**: People especially talented in the Learner theme have a great desire to learn and want to continuously improve. In particular, the process of learning, rather than the outcome, excites them.
- **Responsibility:** People especially talented in the Responsibility theme take psychological ownership of what they say they will do. They are committed to stable values such as honesty and loyalty.
- **Positivity:** People especially talented in the Positivity theme have an enthusiasm that is contagious. They are upbeat and can get others excited about what they are going to do.
- **Competition:** People especially talented in the Competition theme measure their progress against the performance of others. They strive to win first place and revel in contests.

Conclusions

These five areas of talent offer insight into the potential strengths of our future agricultural leaders. Based on the theory of positive psychology, these talents should be the focus of development for these future leaders of the agricultural industry.

Implications/Recommendations

As agricultural educators, our role in the StrengthsQuest program is to help students identify develop their talents into personal strengths and then match those strengths with the future leadership needs of the agricultural industry.

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Student Teacher Data Collection Yields Positive Results

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Introduction

While it is difficult to overstate the importance of the student teaching experience, it is also difficult to capture and analyze the volume of data that the student teaching experience generates. "Student teaching is a complex learning experience that requires careful supervision. Cooperating teachers must create a sustaining environment that will facilitate maximum development of student teachers" (Kuehl 1984, p. 2). Documenting and managing data for a complex learning experience such as student teaching has proved challenging for teacher educators.

Conceptual / Theoretical Framework

The University of Georgia has identified nine standard areas that graduates of the program will be able to perform in. The areas are: (1) Content and Curriculum, (2) Knowledge of Learners, (3) Learning Environments, (4) Assessment, (5) Planning and Instruction, (6) Professionalism, (7) Future Farmers of America (FFA), (8) Experiential Learning, and (9) Program Management.

Methodology

In Agriculture Education many institutions have adopted a "home grown" evaluation system consisting of various evaluation forms and rubrics that are completed by the student teacher, the supervising teacher, and the university supervisor. These forms are most often completed by hand and assembled in a notebook and/or portfolio that the student teacher presents at the conclusion of their student teaching experience. In 2006 the University of Georgia developed an online data collection system to allow student teachers, supervising teachers, and university supervisors to submit qualitative and quantitative data regarding the student teaching experience online directly into a collective database.

Results

Student teachers, cooperating teachers, and university supervisors are each asked to rate students on their performance in each standard related to knowledge, skills, and dispositions. A summated rating scale from 1 (Needs Improvement) to 5 (Excellent) was used. A summary of the aggregate data is below.

Table 1
Descriptive statistics for the GSTEP framework.

	Minimum	Maximum	Mean	Std. Deviation
Content and Curriculum	3.00	5.00	4.51	0.52
Knowledge of Learners	3.00	5.00	4.47	0.52
Learning Environments	3.25	5.00	4.51	0.47
Assessment	3.00	5.00	4.31	0.61
Planning and Instruction	3.00	5.00	4.49	0.64
Professionalism	3.50	5.00	4.74	0.45

Note. 1=Needs Improvement; 3=Average; 5=Excellent

While data presented in the Table 1 provides a broad summary of performance data, the findings in Table 2 below provide data indicating candidate success in exhibiting more specific standards. In addition to these assessments and the data reported on the initial program report, agricultural education faculty also have data from reflective journals, student teaching experiences checklists, and pre-observation and professional growth forms.

Table2

Supervisor, Cooperating Teacher, and Self-appraisal of Student Performance on Specific Instructional Strategy and Performance Criteria Competencies

	University Supervisor		*Cooperating Teacher*		*Self Appraisal*		*Total*	
	M	SD	M	SD	M	SD	M	SD
Set	4.36	.990	4.50	.789	3.50	.548	4.38	.896
Obj	4.23	.912	4.62	.635	3.50	.548	4.38	.814
Inp	4.59	.542	4.62	.567	3.50	.548	4.54	.610
CFU	4.39	.618	4.64	.598	3.00	.632	4.43	.714
MIB	4.55	.504	4.66	.557	4.00	.000	4.57	.537
PGP	4.55	.589	4.70	.505	3.17	.408	4.54	.642
App	4.39	.868	4.66	.626	3.00	0.00	4.44	.820
Close	3.98	1.15	4.46	.676	3.0	.000	4.16	.972
Clar	4.30	.823	4.44	.787	3.17	.408	4.30	.835
Var	4.55	.627	4.60	.606	3.17	.108	4.49	.689
Enth	4.23	.831	4.66	.658	3.83	.408	4.42	.768
TO	4.57	.818	4.60	.728	3.17	1.17	4.50	.859
O2L	4.55	.730	4.64	.663	2.83	.9830	4.49	.823
SLE	4.59	.497	4.66	.593	2.67	.816	4.51	.732

Note. 1=Needs Improvement; 3=Average; 5=Excellent
Set=Established Set; Obj.=Stated Lesson Objectives; Inp=Provided Input; CFU=Checked for Understanding; MIB=Modeled Ideal Behavior; PGP=Provided Guided Practice; App=Application of Concepts to Student Experiences; Close=Achieved Closure; Clar=Clarity; Var=Variety; Enth=Enthusiasm; TO=Task-oriented; O2L=Opportunity to Learn; SLE=Students and the Learning Environment.

Implications

In previous years copious amounts of data along with antidotal data have shaped the direction of the Agriculture Education Program at the University of Georgia. However with increased accountability standards being enforced by the National Council for Accreditation of Teacher Education (NCATE) this type of easily accessible, qualitative data will help in documenting student teacher performance during the student teaching experience.

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Assessing the Employability Skills of Graduates in Hard vs. Soft Disciplines in a College of Agriculture

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Introduction and Theoretical Framework

Employers are dissatisfied with the level of competence graduates possess pertaining to the employability skills needed for success in the workplace (Evers, Rush, & Berdrow, 1998). As such, it is becoming increasingly more important for graduates to be able to transfer the knowledge they learn in the college classroom to the workplace (Billing, 2003; Crebert, Bates, Bell, Patrick & Cragnolini, 2002). Knight and Yourke (2003) opined that a reason graduates are ill-prepared in the way of employability skills could be because faculty are mostly concerned with teaching technical content to students. Specifically, "It could be objected that higher education is primarily about developing advanced understanding of worthwhile subject matter, not about employability" (p. 8). However, could it be that different disciplines are more equipped at teaching employability skills to students?

Neumann, Parry, and Becher (2002) identified ways in which disciplines could be compared to each other (i.e., hard vs. soft). Specifically, the authors stated that hard disciplines focus on cumulative knowledge with a quantitative focus where the curricula are linear and hierarchical and the structure of the course is predominately teacher-led and rigid. In contrast, soft disciplines focus on holistic knowledge with a qualitative focus where the structure of the course is open and loose and student-oriented. In addition, soft disciplines focus on generalizable/transferable skills (i.e., analytic skills, creativity, and lifelong learning), while with hard disciplines "the claim is rarely made for the development of widely transferable skills" (p. 410). To that end, are graduates from soft disciplines more competent at performing employability skills than those from hard disciplines?

Purpose and Objectives

The purpose of the study was to assess the employability skills needed in the workplace of College of Agriculture (COA) graduates (January 2005 to May 2006) in hard and soft disciplines at a southern Land-Grant institution. The study sought to: 1) describe the responding COA graduates by academic major; 2) describe graduates' perceptions of how important the employability skills are to their careers; and 3) describe graduates' perceptions of their level of competence at performing the employability skills in their respective careers.

Methodology

The design of the study was survey research and employed a questionnaire which asked graduates to rate their perception of the importance of the employability skills to their jobs. In addition, graduates were asked to rate their self-perceived level of competence at performing the employability skills in their job. The scale ranged from 0 – no importance (or competence) to 3 – major importance (or competence). Data were analyzed using descriptive statistics. A random sample (N = 235) was taken from the population (N = 594). Fifty-seven usable questionnaires were returned for a 24% response rate.

Findings

Objective one revealed that there were 32 graduates comprising hard disciplines and 25 graduates comprising soft disciplines. Hard disciplines consisted of: agricultural

biotechnology (n = 5), animal science (n = 11), forestry (n = 3), individualized agriculture studies (n = 1), landscape architecture (n = 2), natural resources (n = 4), plant and soil sciences (n = 5), and production agriculture (n = 1). Soft disciplines consisted of: agricultural economics (n = 8), public service leadership (n = 8), agricultural education (n = 4), agricultural communications (n = 4), and family studies (n = 1).

The findings of the study revealed that graduates of hard disciplines perceived motivation (M = 2.63), listening (M = 2.59), and problem solving and analytic (M = 2.54) as the top three most important employability skills, and visioning (M = 1.82) as the least important. Graduates of soft disciplines perceived problem solving and analytic (M = 2.77), oral communication (M = 2.63), and written communication (M = 2.58) as the top three most important employability skills, and coordination (M = 2.04) as the least important.

Graduates of hard disciplines perceived themselves to be most competent at performing the following employability skills: managing conflict (M = 2.44), lifelong learning (M = 2.42), and visioning (M = 2.39), and least competent at creativity, innovation, and change (M = 1.64). Graduates of soft disciplines perceived themselves to be most competent at listening (M = 2.66), interpersonal relations (M = 2.57), and motivation (M = 2.42), and least competent at visioning (M = 1.86).

Conclusions and Recommendations

Graduates representing hard disciplines were most apt to respond to the study as compared to those representing soft disciplines. In all, graduates in animal science (hard) had the largest response rate followed by agricultural economics (soft) and then agricultural biotechnology (hard) and plant and soil science (hard).

Graduates from soft disciplines rated 10 of the 16 skills more important to their job than did graduates from hard disciplines. Neumann et al. (2002) stated that soft disciplines focus on analytic, creativity, and lifelong learning skills. This study was consistent in that graduates in soft disciplines perceived themselves to be more competent with their ability to employ problem solving and analytic and creativity, innovation and change skills in their job. However, this study found that graduates in hard disciplines were more competent at performing lifelong learning skills in their jobs. This finding could be because graduates in hard disciplines rated lifelong learning higher than did graduates in soft disciplines. In all, graduates in soft disciplines perceived themselves to be more competent at performing the said employability skills as compared to their hard discipline counterparts.

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EXPERIENCES OF FIRST YEAR AGRICULTURAL EDUCATION TEACHERS

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Introduction/Theoretical Framework

First year teachers face many challenges in the classroom. Agricultural Education teachers' challenges are compounded by the added responsibilities of advising the FFA chapter and supervising students supervised agricultural experience programs (SAEs). Mundt and Connors (1999) identified the greatest challenges facing beginning teachers as management of local FFA activities and balancing responsibilities, both professional and personal. Moreover, Myers, Dyer, and Washburn (2005) found that planning FFA activities and classroom behavior management were among the top concerns of beginning agriculture teachers in Florida. Related to these findings, Croom (2003) stated that "agriculture teachers experience moderate levels of emotional exhaustion in their work," but also feel "a high degree of personal accomplishment in their work" (p. 11). Talbert and Camp (1994) explained that while literature predominantly points to the first year teachers as experiencing overwhelming problems and frustrations "not all first-year experiences are bad" (p. 35). This study sought to identify both the success and challenges of first year agriculture teachers.

The theoretical framework for this study was the Herzberg's Motivation-Hygiene Theory (McClelland, 2004). This model identifies two components: 1) hygiene (the job environment) and 2) motivation (what people actually do on the job). Both hygiene and motivation occur simultaneously. This study sought to describe the success and challenges of first year Agricultural Education teachers.

Methodology

The purpose of this study was to explore experiences of first year Agricultural Education teachers. The following research objectives were developed:

1. Describe the successes that first year Agricultural Education teachers encounter within the context of classroom instruction, FFA, and SAE supervision.
2. Describe the challenges that first year Agricultural Education teachers encounter within the context of classroom instruction, FFA, and SAE supervision.

This qualitative study was descriptive in design. Long interviews were conducted via telephone to capture rich descriptions of the successes and challenges of the first year teachers. The population for this study included [institution] alumni who completed their first year teaching in Agricultural Education during the 2006-2007 academic year ($N = 6$). All six chose to participate in the study giving a response rate of 100%. First year teachers are identified by participant number in the text to protect the identity of the subjects. Interviews adhered to a structured interview schedule. The interviewer also engaged participants with probing questions to explore emerging themes during interviews. The interview transcripts were analyzed for emerging themes and the data were categorized. Participants' responses were used to draw conclusions and recommendations. Due to the nature of this study, results can only be generalized to the first year teachers from [institution].

Results/Findings

Regarding successes in classroom instruction, "students learned a lot" was the most frequent response. Additionally, 4 teachers identified a positive response from students when they incorporated behavior management techniques. Two teachers also commented that "variability" was a success in classroom instruction. In advising the FFA, 4 teachers identified "getting students to participate in FFA activities" as a success. Four teachers also described their pride in various members' leadership abilities in their FFA chapters. Furthermore, 3 teachers stated that members were highly involved specifically in community based activities. Three teachers stated that they went on multiple SAE visits as a success in SAE supervision. Two teachers described that they were able to integrate SAE into classroom instruction. Additionally, 2 teachers identified their success when some students established SAEs.

Five out of the six teachers stated they experienced behavior management challenges in their classroom. Teachers identified disrespect from students, strict school rules, and a lack of a behavior management system as contributors to this challenge. Two teachers described challenges making accommodations for students with IEPs. In FFA, 2 teachers stated motivating students to participate in CDEs was challenging. Two teachers mentioned training CDE teams as a challenge while 2 others identified time management as a challenge. Regarding SAE supervision, three teachers stated that the biggest challenge was that no previous SAE programs existed at their schools and two teachers experienced difficulty in motivating students to participate in the SAE component.

Conclusions, Implications, and Recommendations

Successes identified in the classroom included student learning, behavior management, and variability in instruction. Challenges included behavior management and accommodating for students with IEPs. Teachers identified multiple successes with SAE supervision including conducting multiple student SAE visits, integrating SAE into the classroom, and establishing some SAEs. The most widespread challenge for teachers was that no prior SAE programs existed at the school. In addition, teachers had difficulty motivating students to conduct SAEs. In advising the FFA chapter, teachers identified increasing student participation in activities and getting members involved in community activities as great successes. Teachers were challenged to motivate students to be involved in activities, to train CDE teams, and in time management.

Based upon the conclusions of this study, the researchers offer the following recommendations. The new teacher workshop in this state should be expanded to include areas in SAE, classroom instruction, and FFA advisement. It is also recommended that professional development in SAE supervision be a priority for all Agricultural Education teachers in the state

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Experiences of Agricultural Education Student Teacher Interns

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Introduction/Theoretical Framework

Student teaching is the culminating experience for pre-service educators. It has been postulated that the concerns and frustrations that teachers experience may be stronger for student teachers. Fritz and Miller (2003) found that the concerns of agricultural education student teachers were consistent with the concerns of beginning teachers. Student teachers were more concerned with subject matter material and discipline problems than any other aspect of student teaching.

Discovering how student teachers spend their time can help teacher educators further refine their respective programs (Torres & Ulmer, 2007). Teacher educators may identify beneficial experiences that student teachers are currently taking advantage of and those which may need to be added to programs. In addition, qualitative research is needed regarding the student teaching experience (Harlin, Edwards, & Briers, 2002) which answers the question: What are the perceptions of student teachers during the student teaching experience?

The theoretical framework for this study is the Herzberg's Motivation-Hygiene Theory (McClelland, 1987). Herzberg conceptualized two components of motivation: 1) Hygiene (the job environment) and 2) motivation (what people actually do on the job). According to Herzberg, both hygiene and motivation occur at the same time. However, if beginning teachers are not adequately prepared for teaching, both the hygiene and motivator factors may prove to facilitate negative experiences in the classroom. This study seeks to identify how well beginning Agricultural Education teachers are prepared for their employment experiences.

Methods

The purpose of this descriptive study is to describe experiences of Agricultural Education student teacher interns within the student teaching internship at a southern land grant university. Specifically, the study sought to examine the following objectives: 1) Identify personal characteristics of student teachers, and 2) Describe the experiences of student teachers in terms of teaching, supervising SAE programs, and advising FFA

The population for the study consisted of Agricultural Education student teachers at a land grant university located in a southern state (N = 13). A quantitative methodology was implemented. Descriptive statistics of frequencies, percentages, means and standard deviations were reported for objectives one and two.

Results

Student teachers in Agricultural Education at this land grant university were female (n = 7, 53.85%) and male (n = 6, 46.15%), with an ACT score of M = 24.46, and university GPA of M = 3.33. In May 2007, all student teachers (n = 13, 100%) earned teaching certification in Agriculture (5-12). A majority of student teachers were former FFA members

(n = 12, 92.31%), and possessed leadership experience through serving as a chapter (n = 10, 76.92%), regional (n = 6, 46.15%), and state officer (n = 4, 30.77%). Eleven (84.62%) student teachers chose to major in Agricultural Education because of their Agricultural Education teacher and two (76.92%) because of his/her interest in agriculture.

Objective two described the type of experiences student teachers received throughout the 15 week student teaching internship experience at this university. Agricultural Education student teachers reported observing 951 class sessions, teaching 1,397 classes, conducting 56 SAE visits, and advising 301 FFA activities. Student teacher interns observed class periods in week 1 most frequently (f = 205). The week student teacher interns taught the most was week March 5-9 (f = 163). Student teacher interns reported making 10 SAE visits in the final week of their experience. Sixty-one FFA activities were advised by student teachers the week of February 19-23 (National FFA Week).

Conclusions

Agricultural Education student teachers at this university are majority female, with an ACT score of 24.46 and GPA of 3.33. All student teachers earned teaching certification (5-12) in May 2007. A majority were former FFA members and possessed leadership experience through serving as chapter officers. Several student teachers were officers at regional and state levels.

Experiences student teachers receive throughout the 15 week student teaching internship at this university include classes taught, classes observed, FFA activities advised, and Supervised Agricultural Experience (SAE) programs supervised.

Agricultural Education student teachers teach more classes than they observe. Student teacher interns observe the most in their first week at their cooperating teacher site. The greatest teaching experience for student teaching interns was gained in week 8: March 5-8. The week most student teacher interns conducted their SAE visits was week 15, their final week of their experience. FFA activities were advised by student teacher interns the most during National FFA Week (February 19-23).

Recommendations

Although the balance between teaching and observing is made, it is recommended student teacher interns teach more courses earlier in the semester. Furthermore, to fully gain a realistic student teaching experience, student teachers must assume responsibility for a full load in student teaching. Therefore, teacher educators at this institution should communicate this expectation to cooperating teachers in the orientation meeting and again when making visits throughout the student teaching internships.

It is recommended other university teacher education programs evaluate their student teacher internship. Examining the length and type of teaching, advising, and supervising experiences student teachers gain is important to improve the internship program. In addition, gaining perceptions of student teacher interns of the experience through their reflections will provide a greater perspective on the process.

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GENDER DIFFERENCES AMOUNG AGRICULTURAL EDUCATION INSTRUCTORS ATTITUDES' TOWARD INFORMATION TECHNOLOGY

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Many changes have taken place in agricultural education over the past decade, primarily in the area of information technology. Technology has played an important role in agricultural education (Kotrlik, Redmann, & Douglass, 2003). This change is even more important for agricultural education and other career and technical education teachers since CTE students are twice as likely to use computers as academic students (Heaviside, 1992).

Numerous studies have been conducted to determine the attitudes of agricultural education teachers toward the adoption of information technology innovations such as the internet, email, CD's, etc. Evidence that agricultural science teachers in Texas have adopted computers and specific innovations of information technology has been reported by Fraze, Fraze, Baker, & Kieth (2002). A study by Kotrlik, et al. (2002) concludes that technology is being integrated by Louisiana agricultural science teachers in the teaching/learning process to a moderate extent. The agriscience teachers are more active in the areas of exploration of the potential of using technology in the teaching/learning process, and in adopting technology for regular classroom use. Fraze et al. suggested that the adoption of computers, email, and the internet have all moved beyond awareness and learning stages therefore the use of information technology has reached critical mass for those innovations. Fraze et al. also suggested that the agricultural science teachers from Texas had favorable attitudes toward most forms of information technology; however, they indicated that other innovations needed to be explored. As active as these streams of research have been, none have focused on the possible impact of gender.

Gefen and Straub (1997) indicated that women and men differ in their perception of email, but not the use. Studies have found dramatic differences between the sexes, indicated that women had significantly higher computer anxiety than their male counterparts (Gilroy and Desai, 1986). Frankel (1990) suggested that the computer culture is uncomfortable for girls and women. Chen (1986) and Massound (1991) found that men held more positive attitudes of interest in, and confidence with computers, and had lower computer anxiety than woman.

Theoretical Framework

The theoretical perspective that guided the review of literature and the current study was the Diffusion of Innovations Theory developed by Rogers (1995). Rogers' diffusion theory has been used for many years to describe innovation diffusion and the adoption or rejection of innovations. Rogers described the five stages of the innovation-decision process as knowledge, persuasion, decision, implementation, and re-invention.
The five stages are all relevant to this study as well as adopter categories.

Adult learners, as Russell proposed (1995), pass through six stages of adoption. He suggested that learners could begin at any stage and progress at their own rates. The stages

included awareness, learning the process, understanding the application of the process, familiarity and confidence, adoption to other context, and creative applications to new contexts.

Purpose

The purpose of this study was to assess gender differences related to the agricultural education instructors' attitudes toward information technology. This study also determined what relationship, if any, existed between demographic and program variables with teachers' attitudes. The sample consisted of 333 secondary agricultural education instructors.

Methodology

A researcher-modified version of the Teachers Attitude toward Information Technology Questionnaire (TAT v. 2.0) (TCET, 2000) was used to determine subjects' attitudes toward information technology. The TAT version 2.0 consisted of five 10-item semantic differential sub-scales and modified by the researcher to assess teachers' attitudes toward Computer Aided Design, Computerized Record Books, email, Online Career Development Registration, and the Internet. The background information section of the instrument was used by the researcher to obtain demographic and agricultural education program data relevant to the study.

The demographic and program variables for each respondent were classified as independent. Teachers' attitude scores for each innovation were classified as dependent variables. The mean attitude scores of both genders were compared using an independent t test and Analysis of Variance (ANOVA). An independent t test was used to compare the differences between the two means, whereas an ANOVA was used to compare the mean differences among two or more variables (Burns, 2000). Statistical analysis using SPPAA 13.0 for Windows Student Version was used to analyze the data. The data collection procedure followed the Dillman (2000) model for mailed questionnaire administration.

Results

The study reported new information regarding gender differences among agricultural education teachers' attitudes toward five specific innovations of information technology. Favorable attitudes toward information technology were identified for both males and females. The innovation with the highest mean attitudes score was the Internet for both genders. Results of this study may assist professional development providers to improve their information technology training programs for agricultural education teachers as well as other secondary instructors. Results of this study may be of use to agricultural educators, teacher educators, technology trainers, technology coordinators, and administrators.

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Implications of Maintenance and Motivator Factors on Extension Agent Turnover

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Introduction/Need for Research

The retention of extension agents was identified as a challenge by the Extension Committee on Organization and Policy's Leadership Advisory Council (2005). This is a significant problem for Cooperative Extension, as the organization loses both time and financial resources when burnout and employee turnover occur (Ensle, 2005). The organization may spend as much as 150% of the employee's salary to hire another individual (Friedman, Galinsky, & Plowden, 1992).

Theoretical Framework

Herzberg's (1968) Motivation-Hygiene Theory proposed that job satisfaction and job dissatisfaction are affected by disparate factors known as motivators and maintenance factors. Motivators include challenging work, recognition, and responsibility; they provide employees with a positive satisfaction as a result of being intrinsically motivated (Hackman & Oldham, 1976). Maintenance factors include status, job security, salary and fringe benefits. Although an employee may become dissatisfied with his/her job when maintenance factors are absent, the presence of maintenance factors does not provide positive satisfaction (Hackman & Oldham).

Methodology

The purpose of this study was to synthesize selected research studies related to extension agent turnover. Specifically, the study described motivator and maintenance factors identified in the literature as affecting job satisfaction and job dissatisfaction. The six steps described by Roberts (as cited in Marsh, 1991) for conducting an integrative inquiry were followed for this study. A computer library search was conducted at a Research I institution to identify research studies published in the *Journal of Agricultural Education, Journal of Southern Agricultural Education Research, Journal of Extension, Dissertation Abstracts International*, and the proceedings of the national Association for Agricultural Education research conference between 1987-2007.

Results/Findings

Thirty-five articles investigated topics related to job satisfaction, job dissatisfaction, and employee turnover. These articles were published in the *Journal of Agricultural Education* (n = 16), *Journal of Extension* (n = 15), *Journal of Southern Agricultural Education Research* (n = 2), and *Dissertation Abstracts International* (n = 2). Commonly cited maintenance factors included salary, stress, hours worked, job level, and work/life balance. Motivators identified included mentoring, type of work, promotion, rewards, and recognition.

Conclusions

An agent's decision to leave Cooperative Extension may be influenced by his/her level of job satisfaction and job dissatisfaction. The reviewed studies identified a number of recurring maintenance factors that agents were dissatisfied with, including salary and work/life balance. Fewer studies identified motivators which positively influenced the agents' level of job satisfaction.

Implications/Recommendations/Impact on Profession

Herzberg (1968) said administrators must make sure that employees' salary and other maintenance factors are sufficient. If not, then they will leave the organization. Satisfying employee maintenance factors will enable them to be motivated through their jobs. The findings of this study revealed extension agents perceived maintenance factors were more often lacking than motivators. Based on Herzberg's theory, Cooperative Extension should be concerned about extension agents leaving the organization due to a lack of adequate maintenance factors.

Extension directors and administrators should look for methods and procedures to ensure that agent's maintenance factors are adequate. When that has been accomplished, they can identify strategies to motivate agents through their positions. Doing so may result in a considerable savings of time and money (Friedman, Galinsky, & Plowden, 1992) by reducing the number of "revolving door" positions. Also, extension agents should be more pro-active about addressing a lack of maintenance factors. Agents may decrease the number of hours they work by placing more emphasis on program planning and evaluation, rather than focusing primarily on delivery. A better work/life balance might be achieved if agents planned personal time before scheduling work events.

The implementation of these recommendations would be expected to decrease agents' stress levels and job dissatisfaction over time. Extension programming would have greater continuity if there was a lower rate of agent turnover. The benefits gained by investing in Extension's current employees may ultimately enhance Extension's ability to fulfill its mission as the educational outreach branch of the land-grant university.

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Health Rocks! as a Leadership Tool

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Introduction/need for innovation or idea

Health Rocks! is a teen taught curriculum that focuses on helping youth make wise choices. Each teen teaching team is partnered with an adult coach. This team then provides guidance for youth 8-12 years of age to experience through a hands-on education program the decision making process. The curriculum includes role-playing, journaling, games, story telling, and discussion groups about what are risks, how do we make choices and what are the consequences of the life-choices we make. The sites include housing projects, inner-city boys and girls clubs, faith-based groups, military youth programs, 4-H clubs and FFA chapters. The youth participants are diverse in race and background as are the teen instructors and their adult coaches. This curriculum is based on the successful Health Rocks! curriculum that has reached over 78,000 youth in 48 states. The Tufts University study on Positive Youth Development supports the effectiveness of the program. This curriculum model provides older youth an opportunity to engage in community youth leadership roles. The youth/adult partnership model has worked in after-school settings, community clubs, school enrichment programming, camping programs (both day-camps and over-night), and lock-ins. Those attending these sessions gain skills in teaching, working with teens as teachers, and youth/adult partnerships.

How it works/methodology/program phases/steps

The workshops orient the teen and adult leaders to the curriculum and the expectations of project staff. Here they will learn teaching techniques, Health Rocks! curriculum, how to work with youth adult partnerships, team building, and have a chance to present a lesson to become familiar with the curriculum. At the workshops, teens complete a pretest questionnaire. The pretest questionnaire includes the Leadership Skills Instrument, the Rosenberg Self-Esteem Scale, and a few demographic questions.

The project will be implemented in the teen and adults' community sites in the next four or five months after the workshops. At the end of the project implementation, posttest questionnaires will be sent to the teens that had completed the pretest. The posttest questionnaire will include the Leadership Skills Instrument, the Rosenberg Self-Esteem Scale, and an open-ended question soliciting the teen mentors' comments about the program.

Results to date/implications

The Health Rocks! curriculum can be implemented in a variety of situations. The project activities focus on using high school students as mentors to elementary students (primarily grades 3 through 6). The teens present information about making healthy decisions to the elementary students and learn that they are role models for the younger children. The program is beneficial not only the elementary students, but the teens as well. The teens showed improvement in both leadership skills and self-esteem, and the younger children learn to make healthy decisions.

According to an independent study by Lerner and Lerner at Tufts University Health Rocks! youth show an impressive resistance to peer pressure. Despite such pressure and, as well, the higher risk content within which they live, participation in Health Rocks! is linked to low levels of smoking and low levels of other risks, as well as to high levels of indicators of positive youth development, at levels equivalent to youth not having the risky context of 4-H youth.

Future plans/advice to others

Teams of teen trainers and adult coaches can implement the Health Rocks! program to their individual FFA chapters and 4-H clubs. This program will help FFA members and chapters eligible to win awards such as American Degree, Career Development Events, H.O. Sargent Awards, National Chapter Award Program, PALS, Proficiency Awards, and Supervised Agriculture Experience. A 4-H club member would be able to apply experiences from this program to their Congressional Award portfolio, National 4-H Congress record book and resume, and National 4-H Conference, as well as scholarship opportunities.

Costs/resources needed

Health Rocks! is a national healthy decision program implemented by Mississippi State University Extension in cooperation with National 4-H Council. Funding for the Health Rocks! program is provided through grants from National 4-H Council. Implementation sites are not charged for training and/or incentive items (ie: curriculum; string packs) provided by MSUES. Information and other items can be obtained through Dr. Jacquelyn Deeds, Dr. Susan Holder, Landon Summers, or Shanna Holder.

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Future Agricultural Education Teacher Academy

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Introduction and Background

The Oklahoma Future Agricultural Education Teacher Academy is modeled after a similar program at Purdue University that was presented at the 2005 National Agricultural Education In-Service held in Indianapolis, Indiana. The Oklahoma academy is a joint effort between the Department of Agricultural Education, Communications & Leadership, Oklahoma State University (OSU), the Oklahoma Department of Career and Technology Education (ODCTE), the Oklahoma FFA Alumni Association, Chesapeake Energy, and the Oklahoma FFA Association. The academy represents an Oklahoma response to the National FFA Organization's "10 x 15" initiative. The National Council for Agricultural Education has outlined eight high-priority goals; one of which is agricultural educator recruitment, including connecting students with universities and providing a bridge through the college experience (National FFA Organization, 2007). Therefore, an objective of the academy is to inform future Agricultural Education instructors of the benefits and rewards of the profession, as well as offer financial assistance during their collegiate experience at Oklahoma State University pending their future enrollment.

How the Program Works

The primary purpose of the Future Agricultural Education Teacher Academy is to encourage and promote the teaching of high school agricultural education as a promising college major and career choice. To that end, high school juniors entering their senior year are given priority. Students who attend the academy, who earn admission to OSU as an incoming college freshmen and who enroll at OSU in Agricultural Education with an emphasis on teaching, will receive a $1,000 scholarship. Criteria for selection include a sincere desire to become a well-prepared Agricultural Education instructor and maintain appropriate academic credentials to complete such goals. The applications are due in March and students are notified by mid-April of their selection. Recognition of students who were chosen to participate in the inaugural academy was announced at the Oklahoma State FFA Convention in April 2007.

A thematic approach is used to introduce five different aspects of agricultural education as a profession and a college major during the summer of 2007. Each day of the five-day agenda was focused on a different theme; selected topics included agricultural education in Oklahoma, the collegiate (OSU) experience, the science of teaching and learning, and the Team AGED concept. An introduction of college and departmental faculty, the philosophy of the AGED model, campus tours, social activities, and facilitated reflection were also elements of the academy experience. The most valuable component for both the students and counselors were the small group discussions that culminated the reflection process for each day. According to participants it was at that point, they truly began to develop the desire to pursue a career in agricultural education. Departmental faculty, representatives from the ODCTE and the Oklahoma FFA Association oversaw the details of the academy. Two undergraduate interns and four mentors were paid for their contributions while several

student teachers and AGED undergraduate students volunteered their time to guide campus tours.

Results to Date

Results of the Future Agricultural Education Teachers Academy can be categorized in three areas: 1) the academy provided a joint project that allowed each partner involved in Oklahoma Team AGED to work collaboratively on the common goal of teacher recruitment. State staff, teacher educators and agricultural educators contributed to the overall success of the program. 2) 10 outstanding students were identified and provided the opportunity to learn about the profession of agricultural education and, based on student presentations highlighting the academy; students had developed a clear vision and purpose to become an agricultural educator. 3) The early career teachers who participated in the academy as mentors developed a renewed passion for the profession.

Introduction to a college major and potential career choice are primary goals of the academy. To that end, the academy participants were required to participate in a district wide teachers' meeting during fall 2007. Promoting the academy and sharing their experience as well as interacting with practicing teachers facilitated students seeing themselves as a future teacher. It is the expectation of the OSU teacher education faculty that at least 80% of the academy participants will enroll and declare agricultural education as their major in the fall of 2008.

Future Plans

In response to the success of the inaugural academy, Chesapeake Energy Corporation has committed additional resources for five more $1,000.00 scholarships. This generous contribution will allow 15 new students to experience the academy in the summer of 2008. The thematic approach will continue however, additional time will be focused on interaction with practicing teachers and OSU faculty who the students would interact with during the course of their undergraduate career. One suggestion that surfaced out of the evaluation of the initial program was to have participants develop a draft plan of study so that they would become knowledgeable about the degree plan of Agricultural Education.

Costs/Resources Needed

Future Teacher Participant Scholarships	10 @ $1,000.00 = $10,000.00
Intern and Counselor Stipends	$ 4,000.00
Meals	$ 2,000.00
On- Campus Housing	$ 880.00
Academy Shirts	$560.00
Transportation	$370.00
Portfolios	$200.00
Total	$18,010.00

To add five more students to the academy and account for estimated inflation, approximately $5,000.00 more will be needed in 2008.

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The Use of Action Research in a Reformed Pre-service Teacher Preparation Program

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Introduction/need for innovation or idea

A model of teacher education emerged, based on a learner-centered view of teaching and on the view of teachers as reflective practitioners (Schön, 1983). This model has also infiltrated the agricultural education teacher education arena. According to the National Standards for Teacher Education, instruction of pre-service students in agricultural education should "encourage the development of reflection, higher order thinking, and professional disposition of teacher candidates" (American Association for Agricultural Education, 2001, 4b).

The shift to learner-centered focus of teaching and reflection has inspired a land-grant institution to implement an opportunity for pre-service teachers to conduct action research projects as part of the pre-service teacher education program. Action research is defined as many systematic inquiry conducted by teachers for the purpose of gathering information about how they teach and how their students learn (Mills, 2003).

The reformed pre-service teacher preparation program was developed in collaboration with the Department of Career and Technical Education who serves Business Information Technology, Marketing Education, and Family and Consumer Sciences students. The purpose of this poster was to explain how graduate students in Agricultural Education and Career and Technical Education will develop and implement action research projects during the pre-service program.

Program Phases

The reformed pre-service teacher preparation program will begin summer 2008 and students will enroll in course work including a course titled Research Applications in Agricultural and Extension Education. The goal of the course is to allow pre-service students the opportunity to design and conduct classroom based research to improve their instructional effectiveness. During the course , students will develop a mock action research project to assist in comprehending basic research methods and develop skills and experience necessary to carry out an action research plan later in the program.

After completion of summer courses, during the fall semester, pre-service students will complete their early field experience. During the time devoted to the early field experience, students will observe mentor teachers, teach classes, and identify a topic for research based on their observations and/or teaching experience.

The spring semester will be devoted to several seminars and student teaching. Prior to student teaching, pre-service students will fully develop the action research proposal and meet with the teacher education faculty and cooperating teacher to present and defend the

proposal prior to implementation. During student teaching the pre-service teacher will conduct the action research plan as developed.

Once the data are collected and the action research project is completed, pre-service students will develop a final report. The pre-service student will present and defend the final report to the teacher education faculty and cooperating teacher.

To disseminate the findings of the of the action research project, the pre-service student will present the project during the state agricultural teachers conference held during the month of July. In addition, the pre-service student will be required to prepare manuscripts for trade journals such as *The Agricultural Education Magazine* and/or *Techniques Magazine*.

Results to date/implications

The reformed teacher education program will begin in summer 2008 therefore no results of the program are available. However, the reformed program has allowed the department to build further collaboration with the Department of Career and Technical Education and reallocate teaching resources so no duplication of courses exists.

Future plans

Further research will be completed to answer the following research questions:
1. Does the use action research project encourage the development of reflection, higher order thinking, and professional disposition of pre-service students?
2. Does the entry level teacher continue reflecting and conducting action research during the first three years of his/her career?
3. Does the dissemination of the action research project encourage in-service teachers to conduct action research projects?
4. Do the findings of the action research projects assist in improving the teaching effectiveness of the pre-service and in-service teachers?

Costs/resources needed

No additional costs are associated with current courses and no addition of new teaching faculty. However with the merged resources, the departments have redistributed and allowed more classes with broader impact to be utilized in the reform program. The agricultural education department has requested that the conference registration be waived for the state agricultural education teachers' conference. The pre-service student will be responsible for lodging and meals during the conference.

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Developing a Comprehensive Recruiting Program: The Top Ten Things Deans / Department Chairs Should Know About Recruitment

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Introduction/Need for Innovation or Idea

According to a USDA CSREES report, demand for qualified graduates in food, agriculture and natural resources will remain strong during the period from 2005-2010 with an expected 52,030 annual job openings (Goecker, et al, 2004) During the early and mid 1990's the nation saw increasing enrollments in colleges of agriculture, natural resources and forestry, however, the nation experienced its first drop in enrollment during the 1998-99 academic year (Washburn, 2003). Following this trend, a college of agriculture at a large state university in the Midwest experienced a decline in enrolment. During the period form 1999-2006 the college experienced an overall drop in enrollment of 21.4% (University Enrollment Data by College, 2007). Because of this drastic drop in enrollment, a renewed focus of student recruitment was initiated by the college. In 2005, the college hired its first fulltime Coordinator of Recruitment Retention and Placement. With this strategic hire the college focused on building a comprehensive recruitment plan to increase student enrolment. Following the successful implementation of the colleges plan a list of the top ten things Deans / Department Chairs should know about student recruitment was developed to help underscore the importance of student recruitment and help other colleges / departments evaluate their recruitment programs.

How it Works/Methodology/Program Phases/Steps

During the initial development of the plan the college identified the major groups who were essential to the recruitment process. In addition, the college identified several different methods and strategies for obtaining information about prospective students. Finally, they identified major techniques and events that could be used to reach these students. A thorough evaluation of these lists provided the basis for the college's recruitment plan and for the eventual development of the list of the top ten things Deans / Department Chairs should know about student recruitment.

Top Ten List	Rationale
#1 Recruitment is a lifestyle, not a job!	▪ Recruitment is accomplished at the convenience of the prospective student, not the recruitment coordinator or the faculty member ▪ It happens at many and varied events and locations
#2 Cherish the relationship!	▪ You must build trust and confidence ▪ Be an active listener ▪ Know your stuff, provide factual information
#3 Surround the Prospective Student!	▪ Recognize the strength of family ties (parents and siblings) ▪ Connect with "influence agents" ▪ Identify key players (current students, specific faculty members, club advisors, athletic coaches, etc.)
#4 Assist faculty and students in "harvesting" relationships!	▪ Create an environment where the recruitment coordinator can earn and maintain the trust of the faculty and current students ▪ Support the recruitment coordinator in working with faculty and current students to make recruitment a priority
#5 Recognize that some majors require different approache!	▪ The recruitment coordinator must be willing to know all units well enough to understand and respond to their needs ▪ Know the recruitment coordinators style; be wary of those who tend to be: Mechanic, Inflexible, Unapproachable, etc.
#6 In	▪ Establish a working relationship with your recruitment coordinator

recruitment, Deans, Chairs and Faculty must both lead and follow!	based on trust and empowerment ▪ Articulate your vision for the unit to provide leadership and direction to the recruitment coordinator ▪ Remember, recruiting is a partnership, not one persons responsibility
#7 Involve the recruitment coordinator in strategic planning!	▪ Recruitment coordinators must be able to understand and articulate the vision and goals of the unit ▪ Demonstrate the importance of recruitment by making the recruitment coordinator a part of your senior management team ▪ Understand the importance to allocating budget to recruitment
#8 Quality materials and websites are essential!	▪ Recruitment is "relationship-based" and requires quality, informative, and up-to-date materials and websites ▪ Constantly critique and update your materials ▪ Don't be afraid to borrow from what others have done
#9 Make the most of your recruitment opportunities!	▪ Ideally the prospective student visits your campus, but this is not always the case ▪ Take your show on the road! Plan quality on campus and off campus events that showcase your people and program. ▪ Attend career shows, conferences and conventions. ▪ Consider visits directly to high schools and community colleges
#10 Have Fun!	▪ The relationships that you make can and should last a lifetime ▪ The students you recruit today are your future alumni and donors, take the time to start the relationship off right!

Results to Date/Implications/Advice to Others

The colleges plan was developed during the 2005-2006 academic year and fully implemented beginning in the fall semester of 2006. When the official university enrollment count was taken on day ten of the fall 2007 semester the college officially experienced an enrollment increase of 6.7% compared to the previous years enrollment (University Enrollment Data by College, 2007). This increase suggests that the college's efforts to increase enrollment are effective. There is no magic formula for recruiting students. Recruitment plans should be as varied and unique as the students they are designed to recruit as well as the institutions they are developed for. The top ten list above however, provides a general list of things to consider when developing a plan for your unique situation.

Costs/Resources Needed

If no college recruitment program has existed initial costs can be high. Development of print material and then the additional cost of production of they material can easily exceed several thousand dollars. In addition, the cost of traveling to high schools, community colleges and trade shows can quickly add up. However, there are several things that can be done that require little to no additional expense including but not limited to email correspondence, accurate and interesting websites, online chat sessions, etc. Ultimately, only the individual college or unit can decide what kind of budget a recruitment plan warrants.

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Save the Water! A Master Gardener Musical-Comedy with a Message

Pat Grace, M.Ag., Virginia Tech

1. Introduction/need for innovation or idea – "Save the Water!"

Florida's environment is unique and fragile. Great demands are being placed on natural resources to accommodate population growth and development. Of particular concern is the quantity and quality of potable water. Recent droughts have exacerbated this situation. Much of the water used in Florida is for lawn and landscape care. It is imperative that Floridians learn and adopt more sustainable methods of yard and garden establishment and care

Extension Horticulture Agents in Florida work with Florida residents teaching what has become known as "Florida Friendly Landscaping." Many of the teaching methods used include a heavy emphasis on lecture and written information disseminated via the internet, newsletters, newspapers, at fairs and other "festival" type events.

An important role of the Extension Agent is that of "change agent," That is, not only are we supposed to be educating people, we are supposed to be influencing them to make changes in their behavior by adopting practices that lead to increased environmental, economic and social sustainability. However, numerous studies by E.S.Geller, M. Finger, McKenzie-Mohr, Nemiroff, Beers & Desmarais and others have documented that education alone often has little or no effect upon sustainable behavior.

Doug McKenzie-Mohr has developed a method he calls *Community-Based Social Marketing* which draws heavily on research into the social-psychological aspects of behavior change. It uses tool that have been identified as being particularly effective in fostering change. These include the use of prompts, commitments, developing community norms and crafting messages using vivid communications tools with engaging messages and images. Save the Water! is an example of the latter. (For a full discussion of Community-Based Social Marketing please refer to *Fostering Sustainable Behavior* cited below.)

2. How it works/methodology/program phases/steps

During my tenure as Extension Horticulture Agent and Master Gardener Coordinator in Putnam County, Florida, we decided to take an unusual approach to teaching and encouraging adoption of "Florida Friendly" landscape practices. Due to a unique combination of creative abilities in our group, we chose to develop and perform a short (20 minute) live musical-comedy presentation which we subsequently named "Save the Water!"

Fifteen Master Gardeners and I began meeting regularly to select specific principles on which to focus and to write the script for the production. The principles we selected were proper fertilization, weed management and pest control. Another group of three worked on scoring the production with appropriate music to accompany the dialogue and action. Another group met to design and build the set and create the costumes. In all, twenty-four Master Gardeners were involved in the production. I served as coordinator and director. It took approximately nine months from point of conception to our first performance on March 11, 2002.

3. Results to date/implications

Save the Water! was presented on 32 separate occasions to audiences totaling over 2000. In follow-up telephone interviews with 57 randomly selected program attendees, 98% enjoyed the performance, 70% rated it "Excellent," and 26% "Very Good." In regard to practice change, 88% said they now use slow release nitrogen fertilizer and use herbicides sparingly. Ninety three percent said they now use environmentally friendly pest control methods. Volunteer hours increased more than 50% during this time period. Perhaps most significantly, not a single cast member ever missed a performance. These Master Gardeners became our most effective agents of change and goodwill ambassadors in the county and in the region. This was, by far, the most effective program I participated in during my eighteen years in Extension. The implications of this success may be significant. First of all, Extension may be more effective in facilitating behavior change by using more vivid communications tools with engaging messages and images. These changes could help protect and preserve natural resources. Secondly, we could greatly increase volunteer hours by involving them in such engaging activities. Finally, these accomplishments may help secure future funding.

5. Future plans/advice to others

The Putnam County Master Gardeners and I followed up Save the Water! with another production called "A Garden Lesson" (2004-2007). It was equally successful. I left the Extension Service in June 2007 to enter a doctoral program at Virginia Tech. My research will focus on using the arts for crafting an effective message as well as the other techniques of Community Based Social Marketing. My advice to others is to remember the importance of behavior change and strive to facilitate such change. Examine and use methods that show promise. Be creative! Take risks! .

5. Costs/resources needed

All costs for sound equipment, costumes, set, etc. were covered by the fund-raising activities of the Master Gardeners as well as donations by community groups for whom we performed. The only exception was compensation for my time which was paid for by Putnam County. In addition to funding, you must also have a group of dedicated, creative people and the ability to effectively direct their efforts. Most importantly, perhaps, is having the vision to see beyond the traditional way of doing things and the willingness to explore new ideas and methods.

6. References

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Professional Development for Tractor and Machinery Certification

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Introduction

The need for tractor safety intervention in Texas is evident. According to the National Institute for Occupational Safety and Health (2003), agriculture is the most dangerous industry for young workers resulting in 42% of work-related fatalities for youth between 1992 and 2000. Of these victims of fatalities under 16 years of age, 76% were working in a family farm setting.

According to the Hazardous Occupations Order in Agriculture (federal labor law) youth under age 14 are prohibited from operating farm tractors over 20 horsepower unless certified by a secondary agricultural science teacher or cooperative extension agent. Youth working for or under the immediate supervision of their parents are exempt from this regulation.

This professional development program was introduced to provide agricultural science teachers and extension agents with the curriculum and assessment tools to organize and conduct youth tractor and machinery certification programs in their communities.

How it Works

An awareness campaign targeting school administrators and board members began mid-June at the Texas Rural Education Association conference. Literature addressing the need for tractor and machinery safety education was distributed along with workshop registration forms. The workshops were based on the Community Lead Instructor training for the National Safe Tractor and Machinery Operation program. Agricultural science teachers and cooperative extension agents in targeted counties were invited to attend one of two summer workshops. An informational session was conducted at the summer conference for agricultural science teachers with 100+ teachers in attendance. Written requests for additional workshops throughout the state were submitted resulting in two additional workshops being offered in the fall.

A community college campus, agricultural heritage center, and two agricultural research and extension centers were chosen for workshop locations due to the access to classroom space and a tractor and implement. Workshops included an overview of the curriculum, explanation of mandatory content areas, and assessment procedures. Demonstrations of pre-operational skills and tractor driving through an obstacle course were provided to allow participants practice using the skills assessment instruments. A 50-item exam with key was also provided to participants along with a copy of the program guidelines and student manual. A CD containing the curriculum and assessment tools was also provided to each participant.

Results to Date

Two six-hour workshops were held during the summer plus one in the fall. A fourth workshop was scheduled but cancelled due to low enrollment. A total of 43 participants consisting of 36 agricultural science teachers, five cooperative extension agents, and two community volunteers completed the workshops. Requests for training from agricultural science teachers outside of the targeted areas continue, indicating a need for further workshops. Anecdotal evidence suggests that at present agricultural science teachers have greater interest in the program than cooperative extension agents.

Future Plans

Transition to a self-sustaining model for future workshops was an original goal of this project, which was primarily sponsored by the Southwest Center for Agricultural Health, Injury Prevent and Education at the University of Texas Health Center-Tyler. A meeting was recently held with Career-Technical Education (CTE) consultants from several regional Educational Service Centers regarding how they could help facilitate this transition. Plans are underway for developing a "master trainer" program that will develop a pool of trainers who can provide workshops at the Educational Service Centers on a cost recovery basis. Interest in the program is expected to increase since the certification program is now listed as an "industry-recognized certification" that may be used as a program accountability measure under current CTE guidelines.

Cost/Resources

Support for this project came from a variety of sources in varying amounts. The value of time and logistical support from the staff of the Southwest Center for Agricultural Health, Injury Prevention, and Education is not included below. However, a breakdown of general expenses for the project is provided.

Consulting fees to senior master trainer for planning and training	$5750
Conference promotional booth rentals	750
Catering/meals for workshops	1000
Facility rental (one location only)	200
Printing and copying of manuals and CDs	1250
Total	$8950
Average cost per workshop participant (n=43)	$ 209

It should be noted that Pennsylvania State University provided permission for copy and distribution of all curriculum and assessment materials for the National Safe Tractor and Machinery Operation Program. Host sites for each of the workshops provided location, tractor, and implement at no charge.

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Program Evaluation and Development in Agricultural Leadership for FFA Officers

John Lindsey, Worth County High School FFA Advisor
Jamie Stevens, Lee County Middle School FFA Advisor
Dennis Duncan and John Ricketts, University of Georgia

Introduction/need for innovation or idea

Youth leadership trainings are conducted in order to educate, equip, and encourage future leaders. As the FFA Mission states, "The National FFA Organization is dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education" (National FFA Foundation, 2006, p.1). Graduate students and FFA advisors, Jamie Stevens and John Lindsey, incorporated program evaluation and development with agricultural leadership training as part of a graduate leadership course at the University of [state]. In order to help students individually succeed and develop leadership potential for the upcoming year as an FFA officer, these teachers developed a leadership training program for FFA chapters in the Southwest Region of Georgia.

How it works/methodology/program phases/steps

The planning committee developed the PEDAL (Program Evaluation and Development for Agricultural Leadership Program) in order to successfully develop leadership training for FFA members. The PEDAL staff followed *Learning Your Way Through Program Development*, a step-by-step program development model distributed by Cornell University "to enhance competencies of extension educators in program planning, implementation, and management" (Cornell University Cooperative Extension, February 2005, p. --). The PEDAL staff contacted four counties in the Southwest Region to discuss their FFA program needs for leadership training. Three of the counties displayed interest in attending an area leadership training where, after completion of the training, the students would be able to: define leadership, explain the impact of leadership, develop traits of a good leader, recognize leadership opportunities in the FFA, develop a sense of team work/cooperation, and utilize basic communication skills for leadership.

The program began with an introduction into leadership, using the [state] Agricultural Education Lesson Plan Middle School Curriculum Unit 3: Introduction to the FFA. Through lecture/presentations, each educator discussed the definition of leadership, the impact of leadership, the traits of a good leader, and leadership opportunities in the FFA - (Georgia Middle School Agricultural Education Program Unit 2, May 1994). After completion of the abbreviated leadership lesson, educators and students were able to interact one-on-one. The "chapter" times gave each FFA program the chance to bond with one another and begin/complete the 2007-2008 yearly programs of activities (POA).

After lunch, students were given the chance to participate in several team building activities to incorporate sportsmanship and cooperation amongst the officer teams and build communication skills. The students were divided into teams and chapter groups. The groups worked together through participation in *Mind Tower*, *Helium Stick*, and *All Aboard*. *Mind Tower* is a strong communication building exercise that limited the students' power. *Helium Stick* is a "deceptively simple but powerful exercise for learning how to work together and

communicate in small to medium sized groups." *All Aboard*, is an "activity that requires working together in close physical proximity in order to solve a practical, physical problem. It tends to emphasize group communication, cooperation, patience and problem solving strategy, as well as issues related to physical self and physical proximity" (Neill, James, 5 March 2006). Before concluding the conference, educators and high school students worked together to present the official FFA Opening Ceremony as a way of summarizing leadership training.

Results to date/implications

At the completion of the training, both students and advisors were given evaluations. One-hundred percent of the chapter officers took the time to complete a retrospective pre/post evaluation on the quality of knowledge and leadership skills the student felt he/she possessed before and after the training. One-hundred percent of the educators completed a post evaluation on the organization, quality of knowledge and leadership skills training available, and potential for a future training. The evaluations also requested additional comments on the benefits and problems of the leadership training.

According to the results of educator and student evaluations, the leadership training was successful. Ninety-five percent of the students comprehended the objectives and purpose of the overall training showing the program objectives and goals were accomplished.

Future plans/advice to others

After consulting the advisors' evaluations, the PEDAL staff decided to make plans for continuing the leadership program for summer 2008 by inviting middle and high school chapters from a six-county area.

Costs/resources needed

The conference costs included lunch and snacks, printed material, and transportation. The first-ever PEDAL conference cost each participant nine dollars. Sponsorship by a local agribusiness could help offset the costs of future conferences.

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Internet Educational Games: Teaching Agriculture in the Digital World

John C. Ricketts, Dennis Duncan, Frank Flanders
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Introduction

Internet-based agricultural games give students around the clock access to agricultural learning. Developed by the Curriculum Division of the Georgia Department of Agricultural Education, Barn Ball and Ag Lib are unique instructional delivery systems that students cannot avoid. Whether student engagement is depicted by time and effort (Newman, 1986) or initiative, self-motivation, enthusiasm, or even frustration (Sandholtz, Ringstaff, & Dwyer, 2004) all forms of student engagement is occurring and is the key to the aforementioned games.

How it Works

Barn Ball is an educational game structured around agriculture and baseball. Played on an individual basis, the game has stadium graphics complete with the sights and sounds of a baseball game including a scoreboard and music. It even has an announcer. The game is basically a drill and practice activity but hopefully an activity that makes learning fun. The game player (student) is always at bat and the objective is to score as many runs as possible. To start the game a player must choose if they want to try to hit a home run, double, or single. The player is presented with a question and nine choices. The questions rank in difficulty level from high to low with the 'home run' questions being the most difficult. The student has 30 seconds to select an answer or the result is an automatic strike. When the student selects an answer the ball is thrown by the pitcher and the result is either a strike for a wrong answer or a hit as selected by the player for a correct answer. Score is kept automatically along with the position of runners on base. Adobe Flash Player, a free download at www.adobe.com, is required to run Barn Ball. Upon quitting the game a student is given their total score which may be printed to turn in to the instructor.

Ag Lib is an instructional board game that consists of agricultural terms and definitions. The game is designed to be played with a class, but it can be played individually or with small groups of four to six players. Teachers divide their class into four or more groups. With the game board projected on the screen, each group chooses a farm animal that they want to represent their group as a game piece. The farm animals and other game parts are complete with sound effects. As the 'New Word" button is selected, a student or group of students formulate their definition or select a definition from those displayed. Score is kept by moving the game pieces forward if they answered correctly. Teachers may set time limits on the questions with the build-in timer. The teacher has great flexibility in how the game is played but must explain the rules (suggested rules included) before the game starts.

Implications

Barn Ball and Ag Lib are exciting learning methods for students, regardless of their level of education or agricultural experience. They are tools to further cement agricultural concepts in the minds of students, while having fun. Teachers can assign homework or give extra credit for participation, but this is rarely needed. Student engagement is rampant under the auspices of Barn Ball and Ag Lib. Students spend time and effort (Newman, 1986) on the game, and show initiative, self-motivation, enthusiasm, and even frustration (Sandholtz, Ringstaff, & Dwyer, 2004) when they did not do as well as they would like. Barn Ball, Ag Lib and other online learning games may be the answer for the "entertainment" generation of students. What's more, the games have even served as a unique study guide for adults seeking to pass the agriculture content certification test in Georgia.

Costs/Resources Needed

The Georgia Department of Agricultural Education Curriculum Specialist developed the aforementioned Internet games. University of Georgia students also assist in maintaining the system. There is some costs associated with implementation of the system, but there is no cost associated with student participation in the program.

References

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AgTube: Using Video Clips as a Pedagogical Tool to Teach Agriculture

Dennis Duncan, John Ricketts, Frank Flanders
The University of Georgia

Introduction

AgTube is based on the popular website YouTube. Video of less than TV quality made by non-professionals has become accepted over the Internet in recent years. It seems that videos of 3-7 minutes hold student interest while longer educational videos may bore students. AgTube videos consist of short instructional segments that focus on lab activities and other specific topics to fit into instructional plans. A good teacher uses a variety of instructional methods. Attention spans are generally short and teachers must use a cadre of instructional methods available to hold student interest. The videos are simply another pedagogical tool in an educator's tool box.

AgTube gives agriculture students 24-hour access to agricultural learning, and it capitalizes on students' current interest in video. Currently, AgTube is limited to observational learning, but soon teachers will be able to use AgTube in the classroom to deliver lab directions, provide homework help, or even provide an extra content module to the lesson plan for student reflection. It is also possible for students to collaborate, in a team environment, on video productions to report back on important content. Such content creation exercises are important for engaging students (Educause Learning Experience, 2006) and for creating important discourse/discussion (Skiba, 2007).

The possibilities are endless. Such aspirations of AgTube are anything from far fetched. Consider the following, "57% of online teens create content for the Internet. That amounts to half of all teens ages 12–17, or about 12 million youth. These Content Creators report having done one or more of the following activities: create a blog; create or work on a personal web-page; create or work on a webpage for school, a friend, or an organization; share original content such as artwork, photos, stories, or videos online; or remix content found online into a new creation" (Lenhard & Madden, 2005).

Developed by the Curriculum Division of the Georgia Department of Agricultural Education, AgTube is a unique instructional delivery system that students can enjoy and learn from.

How it Works

Currently teachers can teach anything from how to make butter to the sex life of a corn plant from AgTube. Students and teachers can go to www.gaaged.org and enter AgTube from the homepage link. The AgTube clips will allow students to observe lab activities. The students get hands on experience when they complete the activity from what they learned from the video. With the popularity of faster computers, video projectors and acceptance of less-than-broadcast quality video, AgTube has been found to be a useful tool in the Agricultural Education classroom.

Implications

AgTube has several implications for teaching and learning. The ready-access of 'how-to' videos on AgTube helps busy teachers in providing instruction. The videos also help teachers who may not have expertise or feel confident in certain areas of instruction by providing expert information and demonstrations. Additionally, just as YouTube has exploded as a media outlet, AgTube could develop as a teaching tool to be used at many levels. Elementary students could access AgTube to learn how to make ice cream without the threat of finding inappropriate information. Middle school students could preview different agricultural career options, and high school students could even develop their own instructional videos. Agricultural Education faculty at The University of Georgia are planning to add a short AgTube video production to the list of assignments in the course.

Costs/Resources Needed

The Georgia Department of Agricultural Education Curriculum Specialist developed AgTube. University of Georgia students also assist in maintaining the system. There are some costs associated with implementation of the system, but there is no cost associated with student participation in the program.

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Student Success Workshop Series: A Student Retention Strategy Facilitated Through University Collaboration

Amanda Lee, Barbara M. Kirby, Angel Johnson, and Alease Hancock,
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Introduction

Research illustrates that programs and courses designed for first year college students can increase their success throughout their college career (Bureau & Rromrey, 1994). Since the 1970's the view of academic retention has began to change, institutions have become more responsible and take some of the blame (Tinto, 2006). One new practice utilized by many colleges is a freshman orientation course or seminar. The purpose of the freshman experience programs is to assist in the transition from high school to college, which can be overwhelming to some (Noble, Flynn, Lee, & Hilton, 2007). Several Land Grant Institutions across the country offer associate degree programs in agriculture and related fields. Students enrolled in these programs are rarely as academically strong as their four-year degree program peers. A student retention program for them is essential if they are to experience academic success.

The Agriculture Institute, an associate of applied sciences degree program at the university, has developed a program addressing issues for academic survival. The Agriculture Institute at North Carolina State University is promoting student success through a workshop series offered exclusively to the associate degree program. University Counselors have partnered with the Agriculture Institute to provide workshops that address the needs of first year students in the Agriculture Institute.

How it Works

Initially, students requesting re-admission after failing to complete minimum standards in their first semester were required to participate in the workshop series. The workshops were designed in response to the problems and challenges students identified in their re-admission meeting. For example, many students realized they did not manage their time very well. Others knew their extensive social life eroded their success. Other students recognized the merits of the workshops so the workshops were opened to all new students in the fall, supplementing the Institute's orientation course. The workshops are designed allowing students to address issues that could affect their academic performance. The workshops are confidential and only students are able to attend. A list of workshops is provided to the students the first week of class, and is posted on the University Counseling Center's website. Workshops are convened in small groups to allow more discussion among the members; only fifteen to twenty students can register per workshop. The workshops being conducted this semester are:

1. Fresh Start – (campus resources, goal setting)
2. Procrastination – (tips to break the habit)
3. Study Smarter, Not Harder – (test taking skills, note taking skills)
4. Safer-Smarter Drinking – (addressing signs of problem drinking)
5. Assertive Communication – Anger Management (patterns of communication)

During the workshop students learn about tips and techniques that will help their academic performance. Students are encouraged to ask question and provide examples of problems they are facing. The workshops are about an hour and a half long and are offered during the evening, after classes are finished. The counseling center tells the Agriculture Institute which students attended so they can monitor the readmission students. The readmission students are required to attend four out of five workshops during the semester. Any Agriculture Institute students who are having trouble academically can attend the workshops.

Results to date/Implications

The Agriculture Institute is currently assessing the impact of this program. In the short term, 28 students participated in at least one workshop and 21 participated in at least four workshops. Fifty-six percent of the participants persisted to the next semester in good academic standing. Participants recognized alcohol abuse as a primary barrier to their academic success. Several students sought additional individual counseling as a result of the workshop series. One issue currently being addressed is how to encourage students to participate in the workshops during the first semester when they believe all is well. When they realize they need the workshops, it is to late and the workshops are completed.

Future Plans/Recommendations

The Agriculture Institute would like to enroll more students into the workshop series before they start showing signs of academic failure. The Institute should track the academic success of students in their first semester and communicate with the students and their advisers about the need for the workshop as a time intervention. As more students participate and the series becomes more popular with students, more workshops should be added to the program, targeting student needs. Additional workshops should be added to the end of the semester before exams, allowing students to refresh test taking skills and techniques.

Costs and Resources

The University Counseling Center is a partner and provides services and resources for the workshops. There is no cost for students to attend. The Agricultural Institute Office provides the marketing materials and manages the student's workshop enrollment process.

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Reel me in! Using Movies to Reinforce Foundations in Teaching and Learning

Amber M. Houck, Cameron C. White, Derek J. Smith, and Robin Peiter Horstmeier
University of Kentucky

Introduction/Need for the Program

Coffey and Peiter (2004) asked: is teacher education in agriculture incorporating major educational change in its pre-service program? The curriculum at this southern land grant university has been recently revised. Instructors sought to incorporate new teaching techniques which follow established principles of learning and effective teaching characteristics and engage pre-service teachers in the learning process. Newcomb, McCracken, Warmbrod, and Whittington (2004) stated that learners should inquire into subject matter and that subject matter must possess meaning for the students. Additionally, Rosenshine and Furst (1971) found that variability in teaching techniques is an important characteristic of effective teaching. Instructors resolved to incorporate excerpts from popular movies to reinforce key concepts taught in foundation teaching courses. The use of popular media has been incorporated into some educational programs on leadership (Williams, 2006), as well as teaching individuals with disabilities (Jones, 2005). With the incorporation of a new undergraduate curriculum to prepare tomorrow's highly qualified teachers, these new strategies were embraced to reach today's generation and attach meaning to Foundations of Teaching content.

Program Phases/Steps

After the significant undergraduate pre-service curriculum revision was identified, teacher educators in Agricultural Education rated innovative teaching strategies to reach learners as a high priority. Faculty identified movies which address key concepts previously identified in the course curriculum for *AED 362: Early Field Experience* and *AED/FCS 580: Foundations of Teaching*. Movies were viewed and topics identified.

Faculty identified one movie for *AED 362: Early Field Experience* - Freedom Writers specifically to address key concepts of diversity, balancing work/family, professional relationships, and conflicting educational philosophies. Students were expected to watch the movie out of class and be prepared to discuss key topics.

In *AED/FCS 580: Foundations of Teaching*, faculty utilized several movies to reinforce key foundational concepts addressed. Upon teaching the concepts of motivation, positive and negative reinforcement, and student learning styles, a 40 minute clip of Mr. Holland's Opus was played. Key aspects show how his motivation changes and how he motivates student learners, especially those students who he believes he cannot reach. As an application assignment in the last third of the course, students watched the movie Dangerous Minds. Upon watching the movie, students were required to reflect on the major concepts learned in class. Topics included: characteristics of effective teaching, diversity, motivation, rewards and reinforcement, positive reinforcement, negative reinforcement, interest approaches, and lesson planning. Students were required to write a reflection paper which analyzes Ms. Johnson's teaching and experiences in her classroom.

Results to Date

In fall 2007, the two course sequence was implemented for the first time. Agricultural Education students expressed positive comments regarding incorporating movies to highlight key concepts learned in Foundations of Teaching and Early Field Experiences. The following comments were shared about Mr. Holland's Opus:

- Mr. Holland's Opus was a great movie about professional and personal relationships.
- He demonstrated that if you are effective, then you can teach anyone.
- His personal struggles were insightful into how to balance career and family.

Regarding Dangerous Minds, students commented:

- This movie did a great job reinforcing concepts, especially getting students motivated and adapting to their way of learning.
- This movie clearly demonstrated how you can turn a student around with positive reinforcement and motivation.
- She did a very good job displaying variability and adjustment in the classroom and providing motivation and reinforcement.

For Freedom Writers, student shared:

- I feel that it does a good job bringing out ideas that can be used to create a good classroom environment.
- She struggled with family balance which worries me some.
- Her teaching methods are backed by literature on diversity

Future Plans/Advice to Others

Future plans include incorporating other movies or popular media into the curriculum. Films such as Dead Poet's Society and Mona Lisa Smile are being considered as possible selections. If a new movie is released which relates to class content, this opportunity may be used to invite students to watch the movie which will reinforce content and build stronger relationships between students and the instructor. When utilizing films, assignments should be developed which connect class content to the movie in order to maximize the learning experience.

Costs/Resources Needed

Costs of incorporating movies into courses include the price of the DVD incorporated. In addition, more time in class is needed to fully incorporate movies and to develop additional assignments that will aide the students in reflecting on the content.

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The Big City, Big Country Road Show Recruitment Model

Lacee Brianne Fraze- Texas A&M University

Introduction

Minority populations are growing rapidly and recruitment of minority students into postsecondary education is a major objective at colleges and universities throughout the United States. Large concentrations of these minority groups can be found in urban areas.

In order to promote agricultural careers to urban high school students, Texas A&M University, in conjunction with Texas Tech University, and Howard College, are conducting a series of summer workshops in 2007 and 2008, entitled The Big City, Big Country Road Show (BC2BC).

Non-traditional and underrepresented groups of students are reluctant to enter agriculture-based careers, partly due to their misconceptions about the industry (all agriculture jobs are farm-based, production-oriented, menial, and low-paying), but misconceptions alone cannot explain this reluctance. What do urban high school students in highly populated areas know about the agricultural industry? What factors impact students' decisions to enter or avoid agriculture-based career paths? When do they make those decisions? Who influences their decisions? Are non-traditional and underrepresented students less likely to enter agriculture-related careers because of cultural, economical, and/or geo-political factors?

Program Phases

Year one workshops include 11 days of interactive curriculum and hands-on activities. Days six through eleven are hands-on workshops that build upon the knowledge base gained from completion of the online modules on days one through five. Each subject area, (crises communications, photography, Web design, news writing, video production) is intertwined with current agricultural issues at the urban level. The idea of urban agriculture is complemented with industry professionals from each city speaking to the students about the opportunities available in the city with a degree in agriculture.

On day 11, financial aid and admissions personnel from various community colleges and universities meet with both students and their parents. This allows parents (who research has shown greatly influence student college and career choice) to get real answers to questions about funding their student's college education.

At the completion of the workshop, students are given several weeks to finish a final project which addresses agriculture in their city. This subject challenges students to make a tangible connection between the urban city and agriculture, while at the same time maintaining an open line of communication between the student and collegiate faculty.

College students as part of the BC2BC staff, further open lines of communication with use of popular social interaction networks; MySpace and Facebook. Interaction with college students may encourage urban high school students to pursue their own college education, in particular a degree in agriculture.

Upon completion of their individual project, students receive three hours of college credit to be redeemed upon registration at a state university.

Implications

This project provides a relevant and timely recruitment model to all human science disciplines in the food and agricultural sciences education, and/or with other academic curricula. The central feature of this project—student recruitment in peer-based, experiential settings with active participation can be adapted by and serve as a model for other institutions seeking progressive methods to increase recruitment of non-traditional and underrepresented students in academia.

Future Plans

The BC2BC Road Show will travel to El Paso, TX, Atlanta, GA, Chicago, IL, and Portland, OR. I found successful after analysis of BC2BC's 2-year pilot program, a permanent recruitment model utilizing BC2BC's innovative concepts will be developed.

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Documenting Accommodations for Special Needs Students in Agricultural Education

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Introduction

Agricultural educators are responsible for educating all students in the least restrictive environment under the current Individuals with Disabilities Act last amended in 2004 (United State Department of Education, 2007). This law mandates that children be mainstreamed in the regular classroom. Many of these children and young adults require certain accommodations to learning activities according to their Individual Education Plan and teachers are held accountable for these accommodations or modifications. In recent studies regarding special needs students in agricultural education, Richardson (2006) found that agricultural educators felt they should be provided with more specialized information relative to employing accommodations for their students with learning disabilities. Kessell (2006) concluded that students in an agricultural education teacher licensure program be exposed to strategies to accommodate special needs students.

The authors of this innovative idea were seeking a tool to assist agricultural educators in choosing and providing accommodations for student needs students in their classroom. A review of literature was completed to determine the different ways that instruction could be modified. Six types of adaptations were chosen from the works of Cole, Horvath, Chapman, Deschenes, Ebeling & Sprague (2000). A one page checklist was developed that included the most common methods for carrying out the six types of adaptations. The checklist provides the agricultural educator with a list of choices to accommodate the student and also provides a record for accountability purposes of the accommodations that were made for each student.

How it Works

The name of the course is listed at the top of the checklist followed by the particular objective to be learned during the instructional method being modified. Also provided on the checklist are the six different ways that assignments or lessons can be modified for children who have learning disabilities. The various modifications are explained on the sheet under the headings of:

1) Input- Describes which strategies are used to teach the student.
2) Output- Describes the way the student demonstrates what they have learned.
3) Size- The amount of work the student is expected to complete.
4) Time- The amount of flexible time allowed.
5) Difficulty- How the degree of difficulty is different from the original assignment given to the class.
6) Level of Support- Describes the amount of assistance given to the learner by the teacher, student mentor, specialist, etc.

If any of these six areas are modified for the learner, it should be briefly described on the checklist, and filed for future reference of guidance counselors, parents, administration, teachers, etc. along with any modified plans, instructional activities or assignments.

Implications
One current issue in education today is accountability. Schools are being held more accountable by their communities, therefore teachers are being held more accountable by their schools. This checklist will enable teachers to provide written documentation of how students with learning disabilities are being accommodated and provide guidance to pre-service teachers in creating accommodations.

Future Plans/ Advice to others
The checklist is currently being pilot tested by high school teachers in the field and recently collected feedback has been positive. Plans exist to share the checklist thorough electronic dissemination to all teachers in the state and to provide in-service activities on its' use next summer.

In the teaching methods course in the undergraduate program, teaching faculty have used the tool to assist pre-service teachers in modifying plans for special needs students to be used in student teaching or other practice situations. The checklist served as a guide for the pre-service teachers in modifying their lesson plans and instructional activities.

Costs/Resources Needed
The cost for using and producing the checklist is minimal. A teacher will need Microsoft Word Processor software, a method of saving work (flash drive, floppy disk, computer hard drive, etc.), and a printer. All of the listed resources should be available to teachers through school systems.

References

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The Importance of Sharing

Jason B. Peake and John C. Ricketts
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Introduction/Need for Program

In 2003 The Agriculture Education Department (now the Agricultural Leadership, Education and Communications Department) at Texas A&M University developed an online resource for student teachers to upload their lesson plans so that faculty members could grade lessons and students could share their lessons with each other. This website served its designed purpose for three years, but stopped working in 2006 when the website moved to a new server and the graduate student who developed it was no longer available for technical support. While this site served Texas well for three years, there is a new site that has been developed to serve Agriculture Education Programs across the country. The new site located at www.agteacher.com is modeled after the original website, but offers more features and is designed to serve all states instead of only Texas.

Program Phases/Steps

Agteacher.com was designed with several features to allow it the flexibility to serve all states.

1. Agriculture Education by its nature is a community based program; this allows local teachers to meet the needs of a specific area, but makes it difficult to create a comprehensive list of all of the subjects that Agriculture Teachers might offer. For this reason the subject areas have been kept broad and limited to five so that lesson plans would not be "pigeon holed" into an inappropriate subject area. The five areas are: (1) Agriculture Science, (2) Agriculture Mechanics, (3) Horticulture and Plant Production, (4) Animal Science and Animal Production, (5) FFA and Agriculture Leadership, and (6) Other.

2. Student Teachers have the option of selecting the state they are located in. This allows other Student Teachers and Agriculture Teachers to search for lessons by state increasing the likelihood that they will find lessons that relevant to their area. Users who are searching for lessons on the site do not have to specify a state and can efficiently search all states thus broadening their search and the number of results they receive.

3. A Boolean Logic based search engine has been added to the website that operates in much the same way that other popular search engines such as Google work. This search engine searches for key words and assigns relevance scores to each lesson that has been added allowing users to avoid irrelevant lessons and only view the most relevant lessons that have been added.

4. A five star rating system has been implemented that allows Teacher Educators to rate lessons from one to five stars, similar to how movies are rated. When users search for lessons the search engine will return the most relevant lessons first, ranked in order of how many stars the lessons received. Yielding relevant and high quality lessons first; with less relevant, lower quality lessons last.

Results to Date

Agteacher.com was developed at the University of Georgia and was pilot tested for one semester in the Fall of 2007. Currently it is being utilized by the University of Georgia and Texas A&M University in order to increase the cooperation and sharing between Student Teachers with plans to include as many Agriculture Teacher Education Programs as possible.

Incorporating this website into the student teaching component has increased the materials available to student teachers while conducting off-campus student teaching. Additionally, this site creates an avenue to students to submit their work during student teaching so that their cooperating teacher can grade student lessons.

While not the original intention of the site, Teacher Educators are also able to view lessons without running the risk of contaminating their local computer with viruses from a student files.

Future plans/Advice to Others

In the future it is expected that the collection of lesson plans will grow and that as the site becomes better populated with lessons that their will be increased use of the site by practicing Agriculture Teachers. Also, as the number of lesson increases additional features will need to be added to the site to maintain efficiency such as pagination of results and more sophisticated search protocols.

Prior to the removal of the original Texas A&M lesson plan site approximately 1500 lessons were compiled in an Microsoft Access database. These lessons are currently unavailable due to difficulties in reconciling differences between the old site (.asp) and the new site (.php). Efforts are currently underway to migrate the existing lessons from the Access database to the new MySQL database.

Individuals interested in pursuing this type of project should be aware of limitations associated with using university resources which have a fixed location and cannot be accessed from remote locations. One problem with the original site is that it was hosted on a Texas A&M server and when the graduate student who created it left there was no way for them to continue work on the project. To avoid this with agteacher.com it is being hosted on a private server which allows remote access from any location.

Costs/Resources Needed

Agteacher.com resides on a private server with an annual cost of $84.00 to host the site; aside from that there is no other out-of-pocket expense associated with this project. The most difficult resource to secure is expertise in developing and maintaining a database driven website.

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Assisting Georgia Agriculture Teachers with Technology Integration

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Introduction/Need for Program

As technology integration has increased in education the National FFA Organization has also adopted new technologies to assist with everything from distributing Career Development Event information to collecting membership information from Agriscience Teachers. Each year Agriscience Teachers neatly organize their FFA rosters and electronically submit them to the National FFA organization and see no additional benefit for their efforts. Once the FFA Roster has been submitted it is available for download as an Excel document from PeopleSoft (https://access.ffa.org/), but very few teachers utilize these files because they cannot see a benefit to downloading them.

A Georgia Agriscience Teacher was able to take his knowledge of Microsoft Excel, Access and Word to create a set of files that greatly increase the usefulness of the FFA membership roster. He created a set of files that allows other Agriscience Teachers to download their FFA roster and quickly generate personalized letters, mailings, and envelopes using the Microsoft mail merge feature. He then bundled these files into a .zip file and made them available to Georgia Agriculture Teachers for their use.

Program Phases/Steps

The initial phase of this project was the development of the files that utilize the data from the National FFA Website. One Microsoft Excel, one Microsoft Access, and five Microsoft Word files were needed to manage the data pulled from the National FFA Website. The Excel and Access files hold the student data and serve as the data source for the merges with Word. The five Microsoft Word documents that merge with the student data are: (1) Welcome back to school.doc, (2) Field trip.doc, (3) Banquet letter.doc, (4) Special event.doc, and (5) Envelope merge .doc.

After the initial files were created and released to the teachers an immediate need was realized for how-to manuals to accompany the files. After these were created and distributed there were additional needs for instructional videos to assist teachers who were not familiar with the technology and terminology being used.

Results to Date

To date 15 agriculture teachers across Georgia are utilizing these files to generate letters, mailings, and envelopes. Some problems were encountered early with regards to how the files were formatted and security settings for the Excel file. As more teachers use the files more adjustments and corrections are being made to improve their usability for the “average” Agriculture Teacher.

Future plans/Advice to Others

In the immediate future there are many additional uses for this project; as teachers develop more letters those letters can be shared among the Agriculture Teachers so that the are not

duplicating efforts. Also, several teachers have expressed an interest in moving from Microsoft Excel to Microsoft Access as it offers a greater range of tools that will allow them to complete more complex task. Also, The Agriculture Teacher responsible for developing this set of files is currently developing a set of instructional videos using Camtasia so that he can better illustrate how Agriculture Teachers how to can use these files.

While not in the foreseeable future there has been discussion that these files and the entire merge process should be turned over to the National FFA Organization. Allowing Agriculture Teachers nation wide to log on to the National FFA Website (http://www.ffa.org), click on "letters" and create customized letters directly from that website. Teachers have cited that this would be faster, easier, and would allow for updates to the files to occur much quicker so that they would not have to email them to each other every time a change is made.

Costs/Resources Needed

There is no immediate or foreseeable cost associated with this as they files were developed as part of a graduate class assignment and they are being offered free to teachers.

References

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Arkansas Biodiesel Research, Demonstration, and Education Project

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Introduction/need for innovation or idea

Recent concerns about global warming, diminishing petroleum reserves, and increasing petroleum prices have lead to renewed interest in biofuels. University of Arkansas Agricultural Systems and Technology Management faculty (AEED Dept.), UA Campus Facilities personnel, and the Arkansas Soybean Promotion Board (ASPB) are cooperating in an applied research, demonstration and education project evaluating and publicizing biodiesel as an alternative fuel for compression-ignition (diesel) engines. Seventeen Kubota RTV900-GT 4WD utility vehicles, operated by UA Campus Facilities, are being used in the research and demonstration components of this two-year project, which began in July 2007.

2. How it works/methodology/program phases/steps

In the research component, the vehicles have been randomly assigned to be fueled with either petroleum diesel (8 vehicles) or B20 biodiesel (9 vehicles). Appropriate fuel labels have been developed and placed on the fuel caps (and other appropriate locations) of each vehicle to prevent accidental cross-fueling. The existing fueling and maintenance record logs have been modified to collect operating and fuel consumption data.

Baseline engine oil samples were taken at the beginning of the project and will be taken during each scheduled maintenance event. Spectroscopic laboratory analysis of the metal content in these oil samples are providing comparative data on levels of engine wear by fuel type. In addition, both baseline and periodic exhaust tests are being conducted to compare the levels of oxides of nitrogen ($NO_{x)}$ in the exhaust emissions of vehicles fueled with diesel and B20 biodiesel. NO_x contribute to smog formation and are difficult to control in diesel engines because reduction in NO_x tend to be accompanied by increases in particulate emissions and fuel consumption (Knothe, Gerpen, & Krahl, 2005, p.19).

These vehicles are being tracked for two years in order to gather data for meaningful comparisons. Statistical comparisons will be made between petroleum and B20 fueled vehicles on the following measures:

- Hours of operation per gallon of fuel consumed (hrs/gal)
- Fuel cost per hour of operation ($/hr)
- Maintenance costs per hour of operation ($/hr)
- Repair costs per hour of operation ($/hr)
- Wear metals (ppm) based on engine oil analysis
- Exhaust emissions (NO_x ppm).

The demonstration component of the project centers on the on-campus public visibility of the seventeen Kubota RTV900-GT 4WD utility vehicles. These vehicles are highly visible on all parts of the main university campus. Project visibility has been enhanced through the development and use of prominent signs attached to each vehicle.

The wording of the display indicates that the vehicle is a part of: **University of Arkansas Biodiesel Project**. The ASPB logo is incorporated into the vehicle display and the ASPB is being recognized for its financial support of the project.

In addition to normal use and visibility on campus, the vehicles are being displayed in "high traffic" areas for maximum public visibility during Arkansas athletic events. The demonstration portion of this project has resulted in state-wide media coverage.

Project personnel have developed materials for a one-hour educational presentation on biodiesel as an alternative fuel for compression-ignition (diesel) engines. The materials are being targeted toward the general public. The project PIs will make a minimum of four educational presentations during the two-year project. Potential audiences include: Extension Service personnel, educators, civic groups, fleet managers, producers, etc. Presentation materials are also being posted on the departmental website for public access by educators, Extension personnel, and others.

3. Results to date/implications

During the first three months of the study, vehicles fueled with B20 had significantly ($p<.05$) higher fuel efficiency than vehicles fueled with D2 (0.717 h/l versus .552 h/l). There was no significant difference ($p>.05$) in corrected NO_x emissions levels between vehicles fueled with B20 (259 ppm) and vehicles fueled with D2 (298 ppm). This 2-year study will provide useful, real-world data on the fuel efficiency and NO_x emissions of compression-ignition utility vehicles fueled with B20.

On August 1, 2007 a press conference was held on the campus of the University of Arkansas publicly launching the biodiesel project. There have also been many interviews with many different news and media outlets. These interviews have been directed in educating the public about biodiesel and the biodiesel project.

4. Future plans/advice to others

Future plans include collecting a full two years of data and then sharing the results through popular and scholarly media outlets. Also, educational materials developed will be available to educators. Other states can seek funding from their own Soybean Promotion Boards for funding in the area of biodiesel research and education.

5. Costs/resources needed

The cost for this biodiesel project is $18,400 per year over the next two years. The Arkansas Soybean promotion board has provided a grant to cover the costs of the project. The University of Arkansas is providing the seventeenKubota RTV900 utility vehicles that will be tested over the two year project.

6. References

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Computer Simulation of Statistical Concepts: A Visual Method for Enhancing Student Learning

Donald M. Johnson
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Introduction

Many graduate students do not like statistics courses! Kirk (2002) surveyed students enrolled in a graduate statistics course and reported that responses to the stem statement, "When I realized that I had to take this [statistics] course, I . . .," included: "wanted to cry," "wanted to die," and "knew I'd have to take it twice" (p. 12). According to Burton (2003), graduate students often view the required statistics course(s) as "a tedious exercise in mastering techniques that are rapidly forgotten after the conclusion of the course" (p. 151).

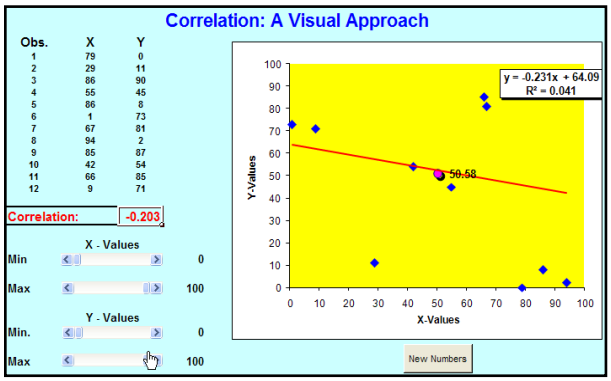
The Department of [Name] at the University of [State], teaches its own graduate statistics course, AGED 5473 – Interpreting Social Data in Agriculture. In an effort to help students learn, understand, and retain important statistical concepts and procedures, several visually-oriented spreadsheet simulations have been developed. This poster describes three example simulations: bivariate correlation, statistical estimation of population parameters, and one-way *ANOVA*. (Note: Attendees will be able to interact with all simulations.)

How It Works

Each simulation was developed using the Excel© spreadsheet program. Excel© has an extensive library of pre-programmed statistical and mathematical functions, excellent graphics and formatting capabilities, and an easy-to-use macro recording procedure, making it an ideal program for developing statistical simulations.

Several features are common to all of the simulations. First, values for each variable are automatically generated using the RANDBETWEEN function. Slider bars are used to set the upper and lower limits from which the random numbers are generated. This allows for manipulation of the distribution(s) to illustrate different outcomes. Graphs are automatically generated to illustrate the specific statistical concept. Macros, executed by clicking on labeled buttons, are used to generate new sets of random numbers. All formulas, functions, and charts automatically update based on these new random values. Formatting features are used to enhance the appearance of each simulation and to focus attention on key concepts. Finally, each simulation is protected so that only the input cells can be altered.

Bivariate Correlation



This simulation (Figure 1) provides a visual introduction to the concepts of bivariate correlation. The CORREL function calculates the Pearson correlation coefficient (*r*) between the randomly-generated values of *X* and *Y* for 12 paired observations. A scatter plot of these values is produced and the prediction equation and regression line are displayed. Students easily grasp how the size and sign (positive or negative) of the correlation coefficient relates to the slope and the goodness-of-fit of the regression line. Restricting the range for one (or both) values(s) shows how homogeneity of variance limits the size of obtained correlations.

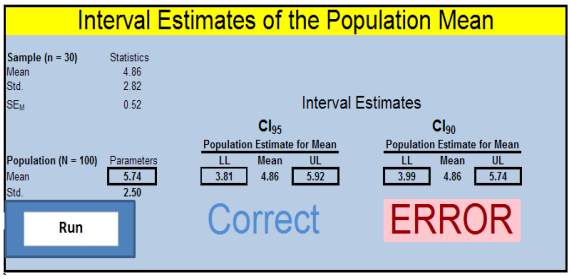


Figure 1. Bivariate correlation simulation.

Interval Estimates of the Population Mean

This simulation draws a random sample (n = 30) from a finite population (N = 100) and displays the population mean, the sample mean, and the CI_{95} and CI_{90} interval estimates of the population mean. Conditional formatting is used to indicate whether or not the confidence intervals actually contain the population mean. This simulation is helpful in assisting students to understand confidence levels, confidence intervals, statistical estimation of population parameters, and probability.

Figure 2. Interval estimates of the population mean

One-Way Analysis of Variance (ANOVA)

ANOVA procedures work by partitioning the total variance into two components: "within groups" and "between groups" variance. When the between groups variance is sufficiently large relative to the within groups variance, a significant treatment effect exists. This simulation allows both the within and between groups variances to be manipulated in order to observe the effects on the obtained *F* statistic and on the decision to retain or reject the null hypothesis.

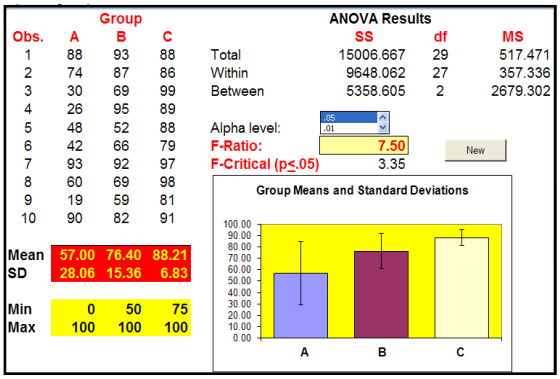


Figure 3. One-Way ANOVA simulation.

Results to Date

To date, 12 simulations have been developed and used in AGED 5473 – Interpreting Social Data in Agriculture. Topics range from describing distributions to factorial *ANOVA*. Each simulation has the same basic format and appearance. Most have taken approximately one or two hours to develop. Student reaction to use of the simulations in class has been positive, with students commonly indicating that the simulations help them to "see" the conceptual logic of the statistical procedures. Simulations can be downloaded from [URL provided.]

Advice to Others and Costs and Resources

Agricultural educators who teach statistics should consider the use of spreadsheet simulations. The cost of development is negligible (except for time) and the benefits to student understanding are large.

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LEI: Leadership Education Institute for Faculty in Colleges of Agriculture

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Introduction and Need for Innovation

Fritz et al, noted that a compelling result of their study "was that the agricultural leadership faculties were primarily traditional agricultural educators with specialized training in leadership" and therefore, "the opportunity for enhanced training in leadership is created" (2003, p. 21). Although agricultural leadership education programs are on the rise, they have not been around long enough to create a faculty properly equipped in the specific intricacies of agriculture and leadership. Fritz et al found that the average leadership course offerings in colleges of agriculture have only been around for an average of 17 years (2003). To meet the need for agricultural leadership courses, current agricultural faculty will need to become versed in the discipline of leadership education. With the already great demands on faculty, this is difficult to do on an autonomous basis. The Leadership Education Institute (LEI) sought to unify, formalize and dramatically improve agricultural leadership education instruction in colleges of agriculture across the nation by offering interested faculty a rich and in-depth leadership education program steeped in agriculture, debate and dialogue.

How it Works: Program Purpose and Objectives

The purpose of LEI was to bring together agricultural educators interested in teaching leadership and provide them with a sustainable network for learning about leadership education, best practices and research in the leadership education discipline, and opportunities for continuous development in agricultural leadership education. Developing agricultural faculty in the area of leadership education has far reaching implications throughout agricultural colleges and the industry impacted by those colleges. The project objectives were: (1) to provide professional development to faculty in colleges of agriculture responsible for delivering undergraduate leadership curriculum; (2) to support faculty in aligning leadership instruction and curriculum with current research and best practices in leadership education; (3) to develop a sustainable network of faculty in colleges of agriculture teaching leadership coursework; and, (4) to disseminate contemporary models for leadership instruction and curriculum to colleges of agriculture.

Results to Date

Ten faculty representing colleges of agriculture across the nation were selected to participate in the institute. LEI Fellows participated in three face-to-face multi-day workshops in addition to campus visits to host institutions. Workshops were designed to provide opportunities for the participants to work with experts in leadership education from other universities and colleges. Two of the workshops were offered as extended pre-sessions to the Association of Leadership Educators (ALE) national meeting and a third workshop was organized as a fall retreat for LEI participants. Telephone interviews were used to assess participant needs and current leadership development activities. Deductive

analysis was performed based on the questions asked to the interviewees (Patton, 2002). Utilizing Lincoln and Guba's (1985) modification of content analysis, units of data were grouped into codes which, ultimately, became the themes of the findings. All of the LEI fellows saw the LEI experience as a way to increase their leadership knowledge. Fellow 8 stated that "while I have a limited exposure to leadership instruction in my background, it's not a great deal, so I saw LEI as an opportunity for me to be better prepared to be an instructor in that particular part of our program." This same fellow went on to tell the researcher that his "PhD is in ag education but my focus is in teacher ed…and I do play that role here but I also play the leadership role too." Seventy percent of the fellows answered that they had had limited to no participation in any leadership education development. Fellow 1 shared that he would describe his professional development in leadership as "limited to none." Of those who had participated in professional leadership development, one had attended a Covey workshop, two were members of the Association of Leadership Educators and had attended that conference and participated in the development that the association provided, and Fellow 3 noted that he had "been to some of the workshops in leadership" provided by AAAE.

Implications

As Fritz and Brown (1998) note, the discipline of agricultural education must continue to work to increase leadership knowledge for those who teach leadership courses but do not have any formalized training. LEI participants agree that faculty in agricultural education are still being asked to teach leadership without a strong foundation in leadership. In order for leadership education to continue to grow in departments of agricultural education, more leadership development and education is needed for those professors who may not have specialized in leadership education during their PhD programs. Fellow 8 states, "here I am in a new program, carrying on this responsibility [of teaching leadership], yet I am not really prepared to do it. At the very least, I hoped that I could continue without doing any harm, but it should be more than that. I want to be able to be effective in terms of leadership development and teaching leadership for that degree in our program".

Future Plans

Future plans include: finalizing the program evaluation including assessment of program objectives, disseminating final results to both agricultural educators and leadership educators, and seeking funding to expand the project to additional faculty.

Costs and Resources Needed

LEI was funded through a USDA Higher Education Challenge Grant ($282,321) directed by faculty at Oklahoma State University, the University of Georgia, and the University of Nebraska. Funds were used to support partial travel costs of LEI Fellows, provide faculty salaries, support graduate assistants, provide leadership libraries to LEI Fellows, and fund an external evaluation of the project.

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Freshman College Orientation Courses in Agriculture: Enhancing Student Engagement

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Introduction

Transitioning from high school to college can be a difficult time for many individuals. For many students this is the first individual freedom and responsibility they have experienced. As a result, many students are ill prepared to deal with the transition and leave school without receiving a degree. Students exiting college without a degree result in an economic cost to the university as well as the community and state. As a result, there is a need to improve the retention of students entering college. There are many ways universities attempt to improve student retention including freshman welcome week activities, peer mentoring, short term orientation courses, and extended orientation courses. All these activities can be helpful to first time students and may provide the connection needed that sustains through their college experience. Research indicates that there is a relationship between retention rates and students who participate in extended orientation courses (Davig & Spain, 2003; Maisto & Tammi, 1991; Sidle & McReynolds, 1999; Fidler, 1991). Specifically, Hyers and Joslin (1998) revealed that student performance in a freshman orientation course were actually better predictors of academic achievement and retention than S.A.T. scores or the students high school rank.

Development of Retention Program

The University of Tennessee at Martin began a campus wide freshman retention program through the development of the Student Success Center (SSC) on campus. The primary goal of SSC was to improve student retention and graduation rates. The primary method used was the development of discipline specific freshman orientation courses titled General Studies 101. First year students are advised during university orientation to register in the GENS 101 course. Currently over 90% of all incoming freshman enroll in the semester long course. The program has been a success as retention rates have increased for participating students. Student academic performance is also higher for participating students as compared to students not participating in the course. The GENS 101 courses have a dedicated faculty member for each course as well as two student PEP Leaders (Peer Enabling Program Leaders). The PEP leaders are chosen from a pool of successful students in a discipline specific agriculture field. First year agriculture students (FYAS) enrolling at UT Martin select between agricultural business, animal science, agriculture production and natural resources management general studies courses. The courses focus on increasing engagement between several groups: FYAS and faculty; FYAS and peers; FYAS and upper classman mentors; and FYAS and the community. The two major factors that drive student retention at UT Martin is the engagement between FYAS and faculty and FYAS and peers.

Particular emphasis is placed on enhancing the interaction between the PEP leader and the students. This has a twofold positive impact. First, PEP leaders gain valuable leadership and mentoring experience. Secondly, FYAS are more open to sharing issues that with their PEP leader than with a faculty member. Students view the PEP leaders as a better person to understand the issues they are facing and as experts in navigating the

college experience. Faculty engagement with FYAS is also critical to the success of the program. Students feel more connecting with their chosen major right from the start. This connection helps to reinforce the decision to choose a particular major in college and the steps needed to be successful. GENS 101 faculty serve as the door keeper and guide to the rest of the university. The difficult step for faculty is to maintain a balance in their relationship with students between the role as faculty member and as a friend. The administration spends considerable time and resources through training opportunities designed to assist GENS 101 faculty members. The support of university administration is essential for the success of program at UT Martin.

Results and Implications

The freshman orientation program has been active in its current format for the past 6 years. Since its inception, the program has shown increasing numbers of participating students. Fall 2007 currently has 120 students enrolled in GENS 101 agriculture specific sections. Initial data reveals that retention to the second year of college has improved for agriculture students. As students learn valuable college survival skills and become more engaged with faculty, peers, the university and the community they will be more confident and adjusted to their new lifestyle as college students. The transition to college is impacted positively from the GENS 101 experience.

Resource Needs and Future Plans

General studies 101 for agriculture students will continue to be integrated into the curriculum at UTM. Students cite that the relationships that are developed in the course are essential to their success. A successful orientation program does not just happen over night. To be successful universities must have faculty willing to interact on a personal level with freshman. Essentially, the faculty member takes on the role of mentor and guide through the maze of the first year experience. Certainly, not all faculty members are comfortable taking on this role, so it is critical that faculty selection for these courses is voluntary. Other needs for this type of program include the support of the university administration. This can be accomplished through faculty release time or additional teaching stipend. As with most programs, success depends on having faculty dedicated to leading students, not just teaching them.

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Using Movies to Teach

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Introduction/need for innovation or idea

The main purpose of educators is to create a learning environment that will promote learning. Educators need a variety of methods and tools to enhance the educational process and experience. The "entertainment value" of movies is well known. Movies have been used to teach such diverse psychological topics as counselor education, psychology and law, cognitive psychology, developmental psychology, social development, family systems theory, abnormal psychology, and medical ethics (Boyatzis, 1994; Gladstein, & Feldstein, 1983). In order for students to learn they need to be actively involved in the learning process. Movies incorporated correctly into the classroom environment can be a meaningful and helpful educational tool. Classes that use movies can engage the learner to use higher level thinking skills. Teaching with movies can highlight concepts covered in the curriculum as well as allow students to make meaningful connections to their lives and the curriculum. Movies often offer insights or other perspectives that not even the instructor had thought about or discussed. Movies can add significance to lessons by contributing sounds and images that can not be communicated in a classroom discussion alone. Students praise films concerned with ethical and personal conflicts, portrayed by realistic characters, who deal with fundamental issues like integrity or trust (Buchanan & Hofman, 2001).

How it works/methodology/program phases/steps

The main point to remember when using a movie in a lesson is to show the movie with a particular objective in mind.

1. **Concept:** The instructor needs to develop a concept they wish to expand upon using the movie. If the instructor wishes to develop creative thinking skills a movie depicting the lead role thinking "out of the box" or "bucking the system" would be appropriate. If models of leadership and followership are the expected out come, a movie depicting good and bad leaders as well as how followers react to them would be appropriate.
2. **Break it down:** The instructor should lead a discussion on the movie as they would a piece of written literature. Discussion should include roles, attitudes and beliefs of the main characters, including having the students analyze how the characters act and react to different situations throughout the movie. This can also be termed, "critical viewing."
3. **Go deep:** Explore the movie for more than just the entertainment value. Analyze the movie taking into consideration theme, costumes, setting, musical elements, sound elements, etc.

Results to date/implications

Movies that have been shown in the leadership courses so far have included:
1.) Pay it Forward, 2.) Over the Hedge, 3.) The Five People You Meet In Heaven

An important aspect to remember is the instructor must make a point of making the students analyze the movie for the desired outcomes of the curriculum or objective. The instructor needs to guide the discussion after the movie to assist the students to realize what they saw and heard and how it relates to the lesson/curriculum. Movies help to encourage discussion on different aspects of the lesson.

After viewing each of the different movies in class students have been able to discuss the following leadership concepts:

Pay it Forward - Can an individual truly make a difference, Responsibility by individuals, The *Power* of an individual

Over the Hedge - Leadership roles, Leadership styles, Followership

The Five People You Meet In Heaven - Personal impacts, Random acts, Perception of events

Future plans/advice to others

Some tips for using movies in your course include:

1. Be sure you preview the movie. Make sure there are no inappropriate words, phrases, or scenes. By discussing selected scenes or characteristics of the movie before viewing the movie uncomfortable situations may be prevented.
2. Give discussion questions (worksheet) to the class before viewing the movie. This will allow the students to look for the concepts as the movie progresses.
3. Depending on the concept you are trying to promote, showing clips of the movie instead of the entire movie may be best.
4. You may have students view the movie on their own instead of using class time. You can have a copy of the movie available for them to check out. You can also provide a viewing time out of class time when the film will be shown.
5. Stop the movie and discuss the lesson as the movie progresses.
6. A movie shown at the beginning of the course can be used throughout the course as a reference in regards to different parts of the curriculum.

Costs/resources needed

A typical movie needed for a lesson can be rented at a local video store or purchased rather inexpensively. Universities often have the movie which can be checked out at no expense.

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Utilizing A Tablet Computer to Capture Evidence for Performance Based Assessment.

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Introduction

One of the on-going tasks in any agricultural Education teacher preparation program is to conduct assessments of student teaching performance and provide evidence of student performance. The use of electronic collection of assessment data, and the use of electronic portfolios are key to many teacher education systems (Buzzetto-More and Ayodele Julius Alade, 2006).

In the Illinois State University Teacher Training Assessment System, a series of assessment tools are utilized. The primary data system is the electronic portfolio utilizing Livetext®. Student teachers are required to post evidence of teaching performance and that demonstrate the various moral and intellectual virtues defined under the Illinois State University system, *Teaching the Democratic Ideal.*

To provide evidence of achievement of these virtues, students are required to post evidence such as lesson plans, activity sheets, exams, and various documents and materials. Another important component to this process is the observation reports produced by university supervisors and cooperating teachers. In the past the agricultural education program used hard copy reports for performance reviews of the student teachers. The use of paper and pencil scoring rubrics, while convenient in the classroom and less distracting to the students and student teacher, made it difficult to share results with the student teachers readily in electronic format to allow them to quickly incorporate that information into their assessment portfolio. In order for students to utilize these in their electronic portfolios, the process required the university supervisor take the hard copy reports back to campus, convert them to electronic format and return them to the student teacher to post on Livetext®. This process often proved cumbersome and difficult to return reports to the student teachers in a timely fashion.

In an attempt to streamline the process, various electronic data collection techniques were explored. A search for electronic techniques that could be effectively used was undertaken. Use of a laptop computer was considered, however, the addition of a laptop and the supervisor typing away during the class was felt to be distracting to the students, and to the student teacher.

One potential solution was to use a tablet computer capable of converting hand-written notes to text in an expedient fashion, which could then be easily stored, shared with the student and easily posted to Livetext.

Methodology

The author began the exploration by researching tablet computer capabilities online and visiting retail outlets to discuss with vendors the capabilities of handwriting recognition and conversion to a text format. Initial thought was to capture hand written notes in cells and a spread sheet allowing documents to be converted to an easy to use electronic

format. Initial consultation with campus computer support personnel yielded names of faculty members on campus who were using tablet computers in a similar fashion. Meetings with those faculty yielded insight into capabilities of the tablet computers in these applications.

Initial discussions and trials convinced the author this was a viable alternative for the agricultural education teacher training assessment data collection. A tablet computer was obtained and the teaching assessment rubrics were converted to a table format in a MS Word document. Where possible, the cells were automated or pre-populated to speed the process of completing the forms under field conditions.

Results to date

Since our program only places student teachers in the spring semester, initial testing was done in the teaching methods course during in-class practice teaching sessions. The same rubric used in student teaching was utilized in this data collection practice.

Initial use demonstrated an efficient form of data collection. The ability to and complete the form, save it and transfer it to the student's storage device proved fast and efficient.

Some of the potential drawbacks involve maintaining the speed of data collection. While still faster than typing on a laptop, it was deemed slightly slower than paper and pencil versions. Errors in converting the hand written input to text were minimal, but present. Some experimentation yielded insight into certain letters and combinations of letters that proved problematic. However, the information in the text provided enough guidance to allow accurate post- facto editing.

Future Plans

The initial observation from the trial utilizing this technology during classroom practice teaching sessions, revealed strong possibilities for application in student teaching assessment. It also revealed areas needing modification to the current procedures. During a search of related literature, a few similar projects were identified. One of those projects incorporated direct wireless web access of Livetext to produce real-time data upload of the feedback to the student's portfolio (University of Findlay, 2005).

Costs/resources needed.

The computer purchased for this project is a Gateway E-155C, running Microsoft Windows Vista Business operating system and MS Office 2007. The system was up and running for just under $2000.

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eLearning as a Tool for Faculty–Development Prior to Delivering Learner–Centered Workshops in International Settings.

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Introduction

Cano, Brown, Ewing, Velez, and Whittington (2006) noted that many actions need to be taken when working with foreign learners. In the fast–paced, high technology world of today, the ability to work through a learning module to help one think about the processes of development and delivery of an international workshop is of great value. Further, using this module in a variety of situations could make this a valuable tool and offer a new way to process learning environments. This self guided instructional tutorial will allow learners to develop knowledge about an international environment by walking them through the processes one needs to obtain before leaving the country.

How it Works

The computer–based international preparation module is designed as an interactive tool that promotes higher–level thinking skill for the learner, greater freedom for selecting the international situation, the ability to plan an effective workshop after developing a context, and the ability to conceptualize the learning situation. This eLearning tool will provide several sections based on the faculty member's knowledge of the country or situation to be encountered. Faculty will work through a series of scenarios and be asked to think critically about what they know, what they think they know, and what they want to know, aiding in the development of higher order thinking on Bloom's taxonomy.

Faculty will be guided through the process of developing a plan to provide an active–learning workshop, tailored for their learners. The module will not draw conclusions for learners, but act as a guide through the process. Faculty could visit this module two to three times before becoming comfortable about their international workshop.

Working through the module will bring the learner through the thought processes of developing a workshop centered on the knowledge of the learners, potential barriers, and known information about the country or agricultural context in which the workshop will take place. The module will act as a guide for instructional development.

The international preparation module will take the learners through the following:

- Background information — understanding the background and situation for the country in which the workshop is being conducted, the overall project, and the participants of the workshops is important.
- Planning — having a clear vision for the goals and objectives of the workshops is important. It allows one to narrow the focus and carefully plan the workshops.

- Flexibility — although identification of goals and outlined our content in advance, it is important to remain flexible for many factors which may arise.
- Language — effectively translating the true meaning of an idea from one language goes beyond simply translating words, particularly when using oral communication.
- Translation — the language difference will provide some interesting experiences. When using translators, it is helpful to have people who are familiar with the content being presented.
- Interpersonal connections — making connections with the workshop participants aids in the overall effectiveness of the workshops.
- Thinking about the learners — are they social learners, inquisitiveness, innovative, conservative?

Thinking through the process of the criteria above will help the workshop presenter focus on the desired goals of the workshop, instead of focus the situational factors identified above.

Implications

The international preparation module is designed to increase higher–level thinking skills for faculty. Faculty should be better prepared for curricular decisions and provide cohesiveness across colleges of agriculture. Faculty will become more comfortable in international development and study abroad programs.

Future Plans

Development of the international preparation module, with input from stakeholder groups to help develop a web–based version, is currently underway to serve faculty members traveling abroad. In the future, the module will serve two additional groups of individuals, including undergraduate student–teachers seeking international experience as well as agriculture extension training as they focus on learners at the local level internationally. In the case of agricultural education, extension majors and/or agents, the module would serve as a template for an in–class assignment. As students work through the module, they should learn to develop the curriculum around the learners and not the content. Dealing with potential language barriers in selected countries, cultural differences and customs, as well as the roles of males and females in the country, all must be considered. The focus of undergraduate learning should be development and application of skills utilized in their classroom in the United States or their local county extension office; thus bringing out the theory of multiple intelligences, social cognitive theory, as well as social constructivism.

Resources Needed

College web-design professionals and undergraduate student involvement will be needed in development of this eLearning tool. Creators will have had previous experience with foreign travel and leading workshops with foreign participants. Uses of appropriate learning theories are applied where necessary.

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Increasing Multicultural Diversity in Agriculture Through Educational Partnerships

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Introduction

Many research studies have indicated a recurring problem regarding the recruitment of Hispanic students into agriculture and life sciences related academic programs. A major reason of this problem is a negative perception of the Hispanic population regarding agriculture (Nichols & Nelson, 1993).

Hispanics have become the largest and fastest growing minority group in the United States (Leon, 2003). This ethnic group represents approximately 13% of the country's population and accounts for about one-half of the population growth in the U.S. (Schmidt, 2003). Schmidt further indicates that, overall, Hispanics are the least educated racial group, with just 6.6 percent of the total enrollment at four year universities and only 11 percent over 25 years of age holding a bachelor's degree. Of this 6.6 percent of the total Hispanic enrollment, very few are enrolled in agriculturally related degree programs.

To remedy this problem of low Hispanic student enrollment in four-year degree programs, the Department of Agriculture at Texas State University, San Marcos has developed a joint project with primarily Hispanic serving institutions. The project will establish linkages between two high Hispanic population community colleges, Laredo Community College (LCC) and Southwest Texas Junior College (SWTJC), and the Department of Agriculture at Texas State University, a four-year institution. The project will create opportunities for Hispanic and underrepresented students to complete degrees in the many disciplines of agriculture and meet the growing need for qualified personnel in the agriculture-related jobs with both public and private sectors.

Methodology: Program Phases/Steps

The first initiative of the project has been to sign a joint admissions agreement to allow students to be concurrently enrolled at LCC, SWTJC, and Texas State University. Texas State University has secured funding and is in the process of equipping a classroom with teleconference equipment to provide a link to LCC and SWTJC. Agriculture courses in various specialty areas will be taught starting in the Fall 2008 at Texas State University and be made available to students at LCC and SWTJC, thus allowing the students an early linkage with curriculum, facilities, and professors of Texas State University. The project will provide scholarships to help defray the cost of enrolling in the courses.

Additionally, students and parents from LCC and SWTJC will be invited to Texas State University in the Summer 2008 academic year to familiarize them with available resources, financial aid, scholarships, and facilities. During their second and third years, students will take experiential learning trips to the LCC Environmental Science Center, SWTJC wildlife area, and Texas State University Freeman Ranch. Activities will include environmental and soil science labs, animal science/wildlife labs, and range/pasture lectures. To enhance their positive learning experience and to avoid alienation, all students will participate in and share with each other these activities. Approximately 10 scholarship recipients will be placed in summer internships with State and Federal agricultural agencies.

Expected Outcomes

The project is expected to benefit all participants, Texas State University, Laredo Community College (LCC), Southwest Texas Junior College (SWTJC), and community at large, as follows:

1) Increasing enrollment of Hispanic students in agricultural sciences at Texas State University and, at the same time, fulfilling its goal of becoming a Hispanic Serving Institution.
2) Developing and implementing new instructional strategies for all three institutions.
3) Increasing the number of internships with agriculture agencies at State and Federal levels.
4) Strengthening the relationships between community colleges and the university.
5) Changing the Hispanic students' perception of careers in agriculture.
6) Developing and/or reinforcing relationships and cultural sensitivity for Hispanic and Non-Hispanic students at the university and the community colleges.
7) Educating and training a qualified labor force to meet growing needs in this area.

Future Plans/ Advice to Others

Unless its funding is renewed, the project in its current form is expected to last three years. Each year experiential learning activities will be planned and summer activities for selected scholarship recipients will be conducted. Parents will be fully involved in their children's transfer to a four year university. We expect that the current partnership will remain intact after the completion of the project. Efforts will be made to secure additional Texas Community College partnerships in the future.

Costs/Resources Needed

The project was funded by the United States Department of Agriculture – Hispanic Serving Institutions Initiative. Funds will be used for student scholarships, student travel to and from the three campuses, teleconference equipment for Texas State University Department of Agriculture, student and parent room and board (dorms) during the summer information sessions, faculty and staff salaries, printing and advertisement costs, and personnel costs for end of year evaluations. Majority of the monies will be utilized for student scholarships to defray the cost of enrolling in the courses.

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An 1862–1890 Partnership to Deliver Agricultural Education

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Introduction

In 1890, Congress passed the second Morrill Act with a purpose of establishing colleges focused on the agricultural and mechanical arts for African-American citizens in the south. Geographically, these institutions span 17 states with the northern–most being Delaware State University and the western–most being Langston University in Oklahoma. Although each state has one official 1890 institution, Alabama is generally credited with two, Alabama A&M University and Tuskegee University. Thus, the total number of colleges usually recognized as 1890 Land Grant institutions is 18.

According to a recent supply and demand study in agricultural education (Kantrovich, 2007), only five of the eighteen (28%) 1890 institutions reported having programs in agricultural education [Florida A&M University, Fort Valley State University (Georgia), North Carolina A&T University, Prairie View A&M University (Texas), and Virginia State University]. Fort Valley State University and North Carolina A&T University were the only two reporting that they had graduates qualified to be agricultural education teachers, with five graduates each. So, in 2006 only ten graduates from the eighteen 1890 Land Grant institutions were qualified as agricultural education teachers. Further, the extent to which 1890 Land Grant institutions are engaged in facets of agricultural education other than teacher education (leadership, communications, extension, etc.) is unknown.

Prairie View A&M University (PVAMU) is the 1890 Land Grant institution in Texas and is in the same university system as Texas A&M University (TAMU), the 1862 Land Grant institution in Texas. PVAMU had a teacher education program in place with one teacher educator, but student enrollment had dwindled. When that teacher educator retired, PVAMU elected to take the program in a different direction by hiring an agricultural educator with expertise to develop other types of agricultural education programs (i.e., leadership and communications). In contrast, PVAMU's sister program at TAMU had more than 20 faculty specialized in multiple facets of agricultural education. Geographically, the two campuses are 50 miles apart.

Thus, the situation that led to this project was in place. PVAMU had a struggling teacher education program and was trying to expand non–teaching agricultural education programs. TAMU had a comprehensive agricultural education program with ample faculty capacity. Accordingly, a partnership between the two universities seemed like an amenable solution to enhance agricultural education at PVAMU. From PVAMU's perspective, this partnership would provide capacity and expertise to help expand agricultural education at PVAMU and increase student enrollment in the

Department of Agriculture, Nutrition, and Human Ecology. From TAMU's perspective, this partnership would provide opportunities to engage more students of color in agricultural education (broadly defined) and expose students of color to graduate school opportunities in agricultural education at TAMU. From the perspective of many involved in this partnership, a long–term goal would be for more students of color to consider teaching agriculture at the secondary level.

Methodology

During the spring semester of 2007, faculty and administrators at TAMU and PVAMU addressed the possibility of partnering to enhance agricultural education at PVAMU. After much discussion, it was decided that the logical first step would be to offer a course jointly at PVAMU to extend PVAMU students' opportunities in agricultural education. In essence, a "survey of agricultural education" course was developed that covered human resource development, multiculturalism, leadership, technology–mediated instruction, teacher education, extension, communications, and agricultural law. The agricultural education faculty member at PVAMU served as the instructor–of–record for the course and provided the day–to–day leadership and coordination for the course. Additionally, with the assistance of other PVAMU faculty members, he recruited students into the course. One faculty member at TAMU served as the coordinator on that campus and recruited faculty members from TAMU to provide instruction for the various topics.

Results to Date

During the Fall 2007 semester, AGHR 4413 (Special Topics) was offered at PVAMU with 10 students enrolled. Throughout the semester, two PVAMU faculty/staff, one external faculty, and eleven TAMU faculty co–taught the course. Early feedback from PVAMU students, PVAMU faculty, and TAMU faculty has been positive. Observations from the authors and informal student feedback indicate that the PVAMU students are interested in additional opportunities to learn about social science opportunities in agriculture. TAMU faculty have related that the opportunity to teach students of color in an 1890 institution was a personally rewarding professional development activity.

Future Plans

Plans are underway to offer a similar course during the Spring 2008 semester. Additionally, faculty and administrators from PVAMU and TAMU are preparing a proposal to seek external funding to aid in establishing a formal partnership between the two universities to continue the expansion of the partnership.

Costs

At PVAMU, the course was part of the normal teaching load of the faculty member in agricultural education; normal class–related expenses were incurred. At

TAMU, faculty members engaged in co–teaching the course on a volunteer basis. The Department of Agricultural Leadership, Education, and Communications provided funds to compensate faculty travel of approximately $500. Approximately $100 in teaching materials was used by TAMU faculty and these funds came from the normal operating budget.

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