Poster Selection Process
American Association for Agricultural Education Annual Conference
May 15 - 18, 2012
Asheville, North Carolina

One hundred thirty-nine submissions were received with sixty-seven in the innovative idea category and seventy-two in the research category. The acceptance rate for innovative idea posters was 60% and research posters were 56%.

Poster Reviewers
The following people generously and professionally donated their time to review poster abstracts. Without their commitment, the poster session would not be possible.

Anderson, Ryan	Iowa State University
Arnold, Shannon	Montana State University
Baker, Marshall	Oklahoma State University
Barrick, Kirby	University of Florida
Blackburn, Joey	Oklahoma State University
Brown, Nick	Oklahoma State University
Christiansen, James	Texas A&M University
Chumbley, Boot	Eastern New Mexico University
Clary, Cynda	New Mexico State University
Coley, Michael	North Carolina State University
Croom, Barry	North Carolina State University
Deeds, Jacque	Mississippi State University
Doerfert, David	Texas Tech
Edgar, Don	University of Arkansas
Edney, Kirk	Texas A&M University
Epler, Cory	Virginia Tech
Epps, Rebekah	University of Kentucky
Ewing, John	Pennsylvania State University
Foor, Ryan	University of Arizona
Gill, Bart	Western Illinois University
Graham, Donna	University of Arkansas
Hains, Bryan	University of Kentucky
Harbstreit, Steve	Kansas State University
Haynes, Chris	University of Wyoming
Hynes, Jim	Sam Houston State University

Irlbeck, Erica	Texas Tech
Jones, David	North Carolina State University
Kaufman, Eric	Virginia Tech
Kieth, Lance	West Texas A&M University
Killingsworth, Justin	Arkansas Tech University
Lawver, Rebecca	Utah State University
Martin, Michael	University of Missouri
Martin, Robert	Iowa State University
McKee, Katherine	Virginia Tech
McKim, Billy	Texas A&M University
Meyers, Courtney	Texas Tech University
Murphrey, Theresa	Texas A&M University
Myers, Brian	University of Florida
Parr, Brian	Auburn University
Pate, Michael	Utah State University
Paulsen, Thomas	Iowa State University
Poore, Jessica	University of Tennessee
Radhakrishna, Rama	Pennsylvania State University
Ramsey, Jon	Oklahoma State University
Rayfield, John	Texas A&M University
Rocca, Steven	California State University, Fresno
Sankey, Laura	Pennsylvania State University
Saucier, Ryan	Texas State University – San Marcos
Smith, Amy	South Dakota State University
Smith, Daniel	Mississippi State University
Spiess, Michael	California State University, Chico
Spindler, Matthew	State University of New York at Oswego
Strickland, Rochelle	University of Georgia
Swan, Ben	California Polytechnic State University
Talbert , Allen	Purdue University
Terry, Rob	Oklahoma State University
Thoron, Andrew	University of Florida
Touchstone, Allison	University of Idaho
Ullrich, Doug	Sam Houston State University
Warner, Wendy	North Carolina State University
Warnick, Brian	Utah State University
Wimmer, Gaea	Texas Tech

Innovative Idea Poster

"I've Seen This Before": Utilizing Student Behavior Simulations to Teach Classroom Management Strategies

Submitted to:

National American Association for Agricultural Education Research Conference
Asheville, North Carolina

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Introduction/Need for Innovation

Classroom behavior management is a challenging topic in teacher education due to the constantly changing dynamics of students and the classroom (Levin & Noaln, 2010). Mastery of classroom behavior management is difficult to achieve without practical application experiences. Conventional methods of teaching classroom behavior management have been criticized for lacking a real world application and transferability to the classroom. However, classroom behavior management skills can be better learned by pre-service interns through the use of role playing in the classroom (van Ments, 1999). "Role-play places the student in a situation, which imposes the same type of constraints, motivations and pressures that exist in the real world" (van Ments, 1999, p. 12). Role-play is a highly effective method for increasing communication skills between teachers and students, developing skills for thinking on one's feet in a classroom environment, and enhancing acquisition of student behavior management techniques (Alkin & Christie, 2002). The agricultural education undergraduate teaching methods course at [University] implemented characterization roles for all pre-service agricultural education interns in an attempt to better simulate an actual secondary classroom. The characterization roles were utilized during microteaching experiences in the laboratory section of the agricultural education teaching methods course.

How it Works

Microteaching laboratory character roles are used to simulate a variety of student behaviors that may be experienced by the pre-service agricultural education intern upon entering a "real" classroom for the student teaching experience. During each lesson, the pre-service intern practices classroom management strategies learned in the lecture portion of the course to correct undesirable student behaviors. Behavior management strategies are used at the discretion of the pre-service intern and may include strategies such as giving the student(s) assigned seating, conferencing with the student about their behavior, or giving the character a detention/office referral. Characters that can be simulated include examples such as the "know-it-all," "shares-a-lot," "sleepy," "teacher's pet," "complainer," or "confused" student.

At the beginning of the course, pre-service interns are given character role assignments that designate which character they are to role-play when each of their peers are teaching. Pre-service interns portray the same character for a certain peer throughout the semester. This is so that teaching interns can accordingly plan teaching and learning strategies to accommodate recurring character behaviors. Additionally, pre-service interns portray a different character for each teaching intern. This is directed to help pre-service interns avoid the monotony of constantly portraying the same character repeatedly. It is also intended to help interns better conceptualize why different student behaviors may occur from a student perspective.

The lab instructor assesses the pre-service interns on their character role participation throughout the semester and provides feedback accordingly on

characterizations during bi-weekly individual reflection meetings. A checks and balances system is maintained to ensure students do not sabotage or overly simplify a fellow pre-service intern's teaching experience. Characters who display overly extreme behaviors lose points from their character role grade. Those in the teacher role can lose points from their teaching score for not addressing negative character behaviors or not providing consequences that reflect the severity of character behaviors. Students choosing not to participate in character role simulations or choosing to portray characters they are not assigned lose points from their character role portion of their overall grade in the course. Finally, a checks-and-balances system is also built into the role play as pre-service interns who are teaching can issue "detentions" for extreme behavior; however, if the behavior is not extreme, the pre-service intern who is teaching will lose points for improper behavior management.

Results to Date/Implications

Following two years of implementation at [University], pre-service characterization role-play during microteaching has proved to be highly successful. Cooperating teachers at the student teaching sites often commented positively on the overall readiness of this particular group of student teachers as compared to previous student teachers. The pre-service teachers also felt that the role-play was particularly beneficial in helping to increase intern's level of confidence and preparedness for the secondary classroom. One student teacher remarked:

> Watching the role-playing of others while someone else was teaching was helpful to me, watching how someone else handles situations. You run in to all of those students that we had role-played. That got me more in the mindset of when I was student teaching, "Ok, I've seen this before—I've seen how this plays out."

Pre-service teachers described the role-playing as a basis for initiating reflection. One of the interns stated, "The character roles let you think about how you'll react to different situations."

Future Plans/Advice to Others

The success and positive (formal course and informal) feedback from graduates indicate that the use of role-play was effective. Student characterization role-play will be utilized again in the upcoming year. Based upon feedback from the previous year's lab instructors, the character roles and descriptions will have minor changes to ensure that a variety of "students" are being presented to the pre-service teachers. In addition, directed reflection questions will used to hone in on choice of student behaviors and how said behaviors would have been treated if that pre-service intern was teaching. Those who implement this learning opportunity are encouraged to utilize a system of accountability and checks-and-balances to ensure all pre-service interns have a positive experience.

Cost/Resources Needed

Costs are minimal and mainly fall into the time category for implementing character role-play during microteaching. Laboratory students need to be appropriately trained during the first laboratory session to fulfill their roles throughout the semester. The laboratory instructors' time was used in individual reflection sessions to discuss how classroom behavior management tactics were used effectively and/or ineffectively. Following summation of the course, the laboratory and lecture instructors met to evaluate the experience and make adjustments the upcoming year.

References

Alkin, M. C., & Christie, C. A. (2002). The use of role-play in teaching evaluation. *American Journal of Evaluation, 23*(2), 209-218. doi: 10.1177/109821400202300210

Levin, J., & Noaln, J. F. (2010). *Principles of classroom management: A professional decision making model* (6th ed.). United States of America: Pearson Custom Publishing.

van Ments, M. (1999). *The Effective use of Role-play: Practical Techniques for Improving Learning* (2nd ed.). London, Great Britain: Kogan Page Limited.

Innovative/Idea Poster

A Creative Challenge

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A Creative Challenge

Need for Innovation/Idea

Teaching creatively might be described as teachers using imaginative approaches to make learning more interesting, engaging, exciting and effective (Jeffrey & Craft, 2004). Shared perspectives, shared knowledge, and shared experiences are key foundational building blocks for creativity. To foster creativity in agricultural students, agriculture teachers must develop creativity and serve as a role model for learners. New technologies have changed the nature of the educational workplace (Kezar, 2001). Agricultural teacher education programs must prepare their teacher candidates for the challenges that lie ahead in teaching the next generation of learners. Agricultural education teacher candidates need to be concerned with building creative strengths to be competitive in the educational workforce and provide students with creative thinking strategies for problem solving and solution finding. Developing creative skills will allow for agricultural education teacher candidates to become a creative agent of positive change in the lives of agricultural students. In *Your Creative Brain*, Carson (2010), asserts "…enhancing creativity is not only for enrichment; it's a vital resource for meeting the challenges and dangers, as well as the opportunities, of the accelerated-change climate of the twenty-first century" (p. 4). In addition, Mathers (in press), adds this call to action, "The recognition of the urgent need for creativity and problem solving skills, the understanding that you must embrace creative learning for yourself first and that creativity cannot be left to chance is central" (p. 1).

How it Works

The ***Creative Challenge*** was developed as a contextual teaching lab to assist agricultural education teacher candidates build effective, creative teaching skills and abilities. Thirteen agriculture education pre-service teacher candidates enrolled in the methods of teaching agriculture course participated in the challenge. Teacher candidates were not informed of the challenge prior to the lab session. Upon arrival to the class room, students randomly selected an envelope that held one secondary agriculture course syllabus. Syllabi' were collected from several online agricultural education resource websites. Students were instructed to open the envelope and identify the subject area of the selected syllabus. Once the syllabi were reviewed, the students were charged with the task of acquiring five items to utilize in any lesson within the selected syllabus with a budget of five dollars. Students were then driven in a university van to the local discount store. During the travel time, students were allowed to collaborate with their peers to spark creativity. The students had approximately two hours in the discount store to determine an activity and select five creative items to purchase to help facilitate the activity. The items were then purchased for the students with university funds. Time was provided for each teacher candidate to present their syllabus, the activity they developed, and the items purchased to the group before the end of class. A two-page reflection of the ***Creative Challenge*** was assigned to gather information on thoughts, issues, suggestions, and things learned during the challenge on creativity. Students were encouraged to address what they found helpful from the challenge and what they accomplished during the lab.

Results to Date

The 13 agriculture teacher candidates who participated in the ***Creativity Challenge*** were asked to write a two page reflection paper on their contextual lab experience. Responses indicated that the opportunity produced positive results. A sample of student comments from their reflection papers include:

"Despite my initial apprehension with this lab, there are several aspects of it that I really enjoyed and believe contributed to the future success as agriculture educators. I personally like the approach and format of the lab and how the necessity of creativity in the classroom was identified and stressed. Many students, including myself, have all agreed that creativity is not always a characteristic that comes easily and would normally just say we aren't creative as a personal handicap. However, by assigning our topics and allowing collaboration with our peers on the van ride was helpful. Even if the ideas from others weren't perfect, they helped us think in a creative way and got our minds kick started to think outside of the box. In the future, I would continue to allow collaboration in the van and allow others to feed off of their peers creativity as everyone tries to develop this rare skill" (male teacher candidate #1).

"I liked that we had this challenge and that it made us think outside the box about things we could do as teachers. Any teacher can stand and lecture or have students do worksheets, but it takes some intense thought to come up with more creative ways to have students be engaged and still learning. I got a lot of ideas for not only my assigned area, but for other student teacher's areas as well. One of which I am planning to implement into my student teaching (female teacher candidate, #1).

"I consider myself to be a creative person and this was not that easy for me to do. I guess you see people come up with these great ideas and do all of these neat things but you do not realize how many bad ideas they had before they got a good one. It takes a lot of time to be creative but I think the students will get so much more out of the learning because it will be fun. Thank you for taking the time to be creative and give us the chance to do so" (male teacher candidate #2).

Future Plans

Future plans for the Creativity Challenge are guided by the primary goal of continued development of creativity in teacher candidates. Ideas for improvement of the ***Creativity Challenge*** included assigning a course syllabus directly related to a unit the pre-service teachers would be teaching during the spring semester at their cooperating school. This could also be accomplished by allowing the pre-service teachers to bring a unit plan that they created and will be teaching from in the spring. By allowing students to select the subject area that they will be teaching in the spring, there may be more of a desire to create the best, most creative idea since their idea will become reality in the spring. To enhance the impact of the lab, it would be beneficial to allow each teacher candidate to briefly allow a few volunteers to do the activity, a brief demonstration so everyone could see it in action and possibly apply it themselves during their student teaching experience.

Costs/Resources Needed

The total cost of the Creative Challenge included: $100 University van rental fee for transportation to the local discount store and $5.00 per student for purchasing their selected items, totaling $165.00. Time was invested into collecting 13 different syllabi and coordinating the lab times.

References

Carson, S. (2010). Your creative brain: Seven steps to maximize imagination, productivity, and innovation in your life. Boston, MA: Harvard Health Publications

Jeffery, B., & Craft, A. (2004). Teaching creatively and teaching for creativity: distinctions and relationships. *Educational Studies, 30,* 77 - 87. *doi*: 10/1080.0305569032000159750

Kezar, A.J. (2001). *Understanding and facilitating organizational change in the 21st century: Recent research and conceptualizations* (ASHE-ERIC Higher Education Report Volume 28 No.4). Retrieved from http://www.jcu.edu/academic/planassess/planning/files/Planning%20articles/organizational%20change.pdf

Mathers, S. (In press). Building passion and potential for creative learning in higher education. In A. Wright, M. Wilson, & D. Maclsaac (Eds.), *Society for Teaching and Learning in Higher Education Collected Essays on Learning and Teaching*. Windsor, ON: STLHE Society for Teaching and Learning in Higher Education.

Innovative Idea

Agricultural Perspectives and Opportunity: A Government and Educational Partnership Prepares the Next Generation of Agriculture Leaders

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Agricultural Perspectives and Opportunity: A Government and Educational Partnership Prepares the Next Generation of Agriculture Leaders

Introduction

Leadership does not exist in a vacuum; it is the process of influencing individuals in an organization in an attempt to achieve their organization's goals, while taking into account the people who are being led, the task that the people are performing and the environment in which the people and the task exist (Ivancevich et al., 2011). An effective leader should be proactive and position their organization to be ready to adapt and stay current with the numerous changes occurring in the world (Pisapia 2009).

The need for strong leaders in agriculture is now more important than ever. Effective leadership is required to take each state's agriculture industry through the next era of change, including environmental controversies, advances in technology, and budget deficits (Adrian et al., 2004; Carlson, 2010; Reganold et al., 2011). Commissioners of Agriculture (Commissioners) are elected or appointed officials who are the leaders of agriculture for their state. They promote the agricultural industry, while protecting consumers and the environment (National Association of State Departments of Agriculture, 2011). Universities can involve Commissioners to develop new courses, preparing students to become future leaders in the field of agriculture.

How It Works

The Commissioner's class is a joint project of [UNIVERSITY'S] [College] and the [STATE] Department of Agriculture and Consumer Services (Department). The purpose of the class is to combine the resources of the College and Department to further an interest common to both of them, namely preparing today's college students to lead and succeed in the agricultural sector upon completion of their education. The Commissioner's class is a 2-credit hour, graded class and occurs during the fall semester. The Commissioner is an Adjunct Lecturer of the College and serves as co-instructor with the university professor. The university professor is responsible for the university course scheduling, policies and procedures.

At the completion of the course, students are able to: 1) Describe the mission, organizational structure, personnel responsibilities and major programs in the [STATE] Department; 2) Identify traditional and contemporary issues in domestic agriculture, natural resources and food systems; 3) Investigate opportunities for agriculture in a global market; 4) Discuss how innovation, research and public policy will shape solutions to agricultural challenges; 5) Meet agricultural political leaders to discuss legislative processes and policy establishment; and 6) Examine the major challenges confronting agriculture leaders, producers and consumers, locally and beyond.

The Commissioner's office and staff select and coordinate the speakers for the class; most are the Division Directors from the Department. Lecture/discussion is the primary strategy used to engage students with the expert speakers, and address learning outcomes

1 through 4. The speakers employ demonstrations, panel discussions and case studies to encourage active learning in the classroom. Speakers post PowerPoint presentations, government documents, publications and websites related to the weekly lectures on *Moodle.* The Commissioner serves as the facilitator for each class. Students are required to subscribe to the *Southeast Farm Press* print magazine and daily e-newsletter, which serve as the primary text and source of current agricultural events in the region (Southeast Farm Press, 2012). They prepare to discuss issues.

The Commissioner's office also coordinates additional educational experiences including a "behind the scenes" tour of the State Fair, the largest, most populated agricultural event in the state. Learning outcomes 5 and 6 are achieved when the students attend a legislative day at the [STATE] General Assembly. House and Senate leaders conduct tours, discuss protocol, issues and the impact of legislation on agriculture policy. Other legislators and agricultural commodity leaders network with students at a reception hosted by the Commissioner in the State Capitol as a culmination to the legislative day.

The students complete capstone collaborative group projects about an agriculture related topic. They may interview local farmers, agricultural business owners, and policymakers or survey students from across the campus about sustainable agriculture and general agriculture knowledge. Students also complete reflection papers about their experiences in the class.

Results to Date/Implications

The Commissioner is an adjunct lecturer at the [UNIVESRITY] and has taught 82 students from associate degree, undergraduate, and graduate majors during the fall 2010 and 2011 semesters. The Commissioner's students have an excellent understanding of how the university and Department work together to enhance the agriculture industry. They also gained knowledge about agricultural policy and current issues. By interacting with the Commissioner during class, students were able to build a relationship with a government official, various politicians, lobbyists and agricultural commodity leaders. Course evaluations were high.

Future Plans/Advice to Others

The Commissioner's class will be held again in the fall 2013 semester. One concern is that when an incumbent must run for office, political campaigning and teaching a class is not permitted. Other related activities will occur so as not to break the positive momentum. The course is a model for other states, particularly those who have a Commissioner of Agriculture, to bring his/her expertise to the classroom. The adjunct position is based on the person's expertise and ability to bring that experience to the classroom aside from political party affiliation or personal agendas. Other states are interested and would like to develop multi state experiences. The adjunct appointment is desirable and brings credibility to the teaching position.

Costs/Resources Needed

Student tuition supports delivering the class as a credit bearing course which is part of the faculty members teaching load. Commodity organizations and Agricultural Foundation donations (~$1,000) support the receptions. Student fees pay for vans used for field trip travel ($500). The cost of time is the most significant for the Commissioner's class. A staff member at the Department is needed. Ideally this can be a graduate student with a position at the Department.

References

Adrian, A., Shannon H., Norwood, P., Mask, L. (2005). Producers' perceptions and attitudes toward precision agriculture technologies. *Computers and Electronics in Agriculture*, 48(3), 256-271. Retrieved from http://www.sciencedirect.com/science/article/pii/S0168169905000852.

Carlson, B. (2010, February 02). Idaho state department of agriculture faces budget challenges. *The Idaho Business Review*. Retrieved from http://idahobusinessreview.com/2010/02/02/ag-department-faces-budget-challenges/.

Ivancevich, J, Konopaske, R, & Matteson, M (2010). *Organizational behavior and management*. (9 ed.). New York: McGraw-Hill/Irwin.

National Association of State Departments of Agriculture. (2011). *Nasda*. Retrieved from http://www.nasda.org/.

Pisapia, J. (2009). *The strategic leader: New tactics for a globalizing world*. Charlotte, N.C.: Information Age Pub. Retrieved from http://www2.lib.ncsu.edu/catalog/record/UNCb6057513.

Reganold, J. P, Jackson-Smith, D, Batie, S. S, Harwood, R. R, Kornegay, J. L, Bucks, D, Flora, C. B, Hanson, J. C, Jury, W. A, Meyer, D, Schumacher, A, Sehmsdorf, H, Shennan, C, Thrupp, L. A, Willis, P. (2011, May 6). Transforming U.S. agriculture. *Science*, *332*, 670-671. Retrieved from http://www.sciencemag.org.prox.lib.ncsu.edu/content/332/6030/670.full.pdf

Southeast Farm Press (2012). *Southeast Farm Press Daily.* Retrieved from http://enews.penton.com/enews/farmpress/southeast/current.

Poster Type (Innovative Idea)

Alternative Agriculture Projects: Growing Future Opportunities for Rural Youth

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Alternative Agriculture Projects: Growing Future Opportunities for Rural Youth

Introduction/Need for Innovation

Rural areas of the United States that are dependent on farming have experienced many years of population loss (McGranahan & Beale, 2002). This population loss has been attributed to the lack of available economic opportunities to people that live in these areas (Howley, Rhodes, & Beall, 2009). These communities have a much older population than the national average, the young people in rural areas tend to move to cities to find educational and employment opportunities. Once the rural youth move away, they almost never return to their home rural community (Strickler, 2008; Howley et. al, 2009). If these young people do remain in rural areas, they are seen as resigning themselves "to a life short of one's potential" (Burton, 2011, p. 113). Parents accept the inevitability that their children will leave the rural community if their children are to achieve success. This trend has not always been the case; at one time, college-educated rural youth would return home to take positions on the family farm or to find employment in nearby towns (Howley et. al, 2009). When young people "decide to seek or create employment opportunities for themselves in their rural communities" they can reverse the trend of population loss and impoverished economic options in these areas (p. 517). One potential opportunity is for these youth to pursue production opportunities in alternative agriculture. Alternative agriculture is defined by its goals that include reducing chemicals, managing smaller farms, efficiently using technology, developing more direct-to-consumer sales, lowering energy costs and providing greater self-sufficiency (Beus & Dunlap, 1990). Priority 6 of the National Research Agenda seeks to develop vibrant, resilient communities (Doerfert, 2011). The National Research Agenda states that "local leadership capacity" and "civic engagement" can "affect the quality of life in a rural community" (Doerfert, 2011, p. 28). Knowing that rural community development is a major research focus of Agricultural Education departments, professionally we have to ask "How are we going to encourage the development of economic opportunities for secondary rural students?"

The [University Department that houses Agricultural Education] attempted to answer the proposed question by using a model that focused on increasing the educational opportunities of rural secondary students. A model that has been replicated with some success in research is the introduction of "gardens as a teaching tool within schools and communities" (Robinson-O'Brien, Story, & Heim, 2009, p. 279). These gardens provide for learning for youth and the community throughout the year. Participation in these gardens requires long-term commitments from teachers, administration and the school community to thrive (Ozer, 2007). This support from the community can overcome a lack of internal resources to successfully operate the project. These school garden models can be started with external funding but the funds should be used to strengthen the idea, not to undermine the local community effort. When the gardens are located at the schools, they can provide "Student–owned and –managed" experiential learning opportunities for the involved students (Retallick, 2010, p. 66). By gaining experiences in these areas, the students can develop the skills to pursue these opportunities during and after leaving their secondary schools.

How the Program Works

The agricultural education department, along with funding from the [State's Department of Agriculture] provided money to develop alternative agriculture programs in secondary agriculture classrooms. The proposed concepts included the addition or production of an agricultural crop or service which is not currently produced in the local county of the secondary agricultural education program applying for the grant. Each of the programs selected received $3,000 - $9,000 that they are using to develop an alternative agriculture crop in their local program. The awarded amount requires a one-to-one match by the secondary school program. The match could include inputs related to salaries, school district funds committed to the project, student hours devoted to the project outside of normal class times and the purchase of goods and other services that will be used with the grant. The crop or service implemented should aim for long-term sustainability; therefore the alternative agriculture product should have the opportunity to earn money for the secondary school agriculture program. The grants allow for the increase of Supervised Agriculture Experiences (SAE) and student Agriscience fair projects related with the offered alternative product or service. The schools were required to enter SAE proficiency applications and FFA agriscience projects based upon the grant to show evidence of student involvement. Recipients of the grants were required to report on their individual projects to they could be replicated in other secondary schools throughout the state. Teachers were required to provide lesson plans, support materials and photographs of the project to help with the replication of the grant. Support from local school districts was required and was secured through letters of support from the school principals, career and technical education directors and the district superintendents.

Results to Date

Five secondary schools were awarded grants and each secondary agricultural program has developed their own individual crops or animals to be raised for profit. Each of the programs has been able to accomplish some early successes prior to their first harvests. The first school built two high-tunnel greenhouses, one purchased with the grant and the other with matching funds from the school district. The high tunnels are being used for raspberry and blackberry production. The second school purchased an abandoned greenhouse and converted it to a high-tunnel greenhouse for raspberry production. The third school developed raised garden beds for potato production. The fourth school converted one-half of their existing greenhouse structure to the production of out-of-season, locally grown tomatoes. The fifth school was able to build a fillet station room next to their existing tilapia operation, expanding the opportunities to provide the capabilities of continual harvesting and selling of locally grown tilapia. All schools have created projects that are monetarily self-sustaining teaching labs that have the potential to continually model alternative agriculture production in their local communities.

Future Plans

The schools participating in the grants are actively taking part in a major research study outlining the benefits and shortcomings of focused development of alternative agriculture opportunities in secondary agricultural programs. Due to initial positive feedback of the alternative agriculture project the department is pursuing two options with expanding the project in the future. The first option is to provide existing grant schools extra funding to develop local adult learning opportunities based upon the

alternative agriculture grant project. The second option is to expand the program to three more secondary schools in the next academic year.

Costs

A total of $30,000 in matching grants, was awarded to five schools in spring of 2011. These awards ranged from $3,000 to $9,000. Money was required one faculty member's summer employment, one graduate student assistantship, money for travel between the schools and money to pay two other supporting personnel who were conducting school visits. The overall cost of the program to date is $150,000.

References

Beus, C. E., & Dunlap, R. E. (1990). Conventional versus alternative agriculture: The paradigmatic roots of the debate. *Rural Sociology*, 55(4), 590-616.

Burton, J. (2011). Small ponds: The challenges facing gifted students in rural communities. *Northwest Passage Journal of Educational Practices, 9*(1), 113 – 118. Retrieved from http://web.unbc.ca/~kitchena/NWATE/NorthwestPassageJournal2011.pdf#page=114

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011 – 2015.* Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Howley, A., Rhodes, M., & Beall, J. (2009). Challenges facing rural schools: Implications for gifted students. *Journal for the Education of the Gifted*, 32(4), 515-536.

McGranahan, D. A., & Beale, C. A. (2002). Understanding rural population loss. *Rural America, 17*(4), 2–11. Retrieved from http://151.121.68.30/publications/ruralamerica/ra174/ ra174a.pdf

Ozer, E.J. (2007). The effects of school gardens on students and schools: Conceptualization and considerations for maximizing healthy development. *Health Education and Behavior, 34* (6), 846 – 863. doi: 10.1177/1090198106289002

Retallick, M. S. (2010). Implementation of supervised agricultural experience programs: The agriculture teachers' perspective. *Journal of Agricultural Education, (51)* 2, 59–70. doi: 10.5032/jae.2010.04059

Robinson-O'Brien, R., Story, M., & Heim, S. (2009) Impact of garden-based youth nutrition intervention programs: A review. *Journal of the American Dietetic Association*, *109*(2), 273 – 280. doi: 10.1016/j.jada.2008.10.051

Stricker, K. (2008, March). *The Dakota diaspora: The out-migration of talented youth from one rural community.* Paper presented at the annual meeting of the American Educational Research Association, New York.

Poster Type (Innovative Idea)

Poster Title

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Charting New Directions through Collaborative Strategic Planning

Introduction / Need for the Innovation

Schools have continued to be bombarded with seemingly constant changes in local and state expectations and accountability demands (Phipps, Osborne, Dyer, & Ball, 2008). Agricultural education programs are subject to these same pressures and policy shifts. At a time when the number of district and state supervisory staff dedicated to supporting local agriculture teachers and programs has diminished to minimal levels or even disappeared, local teachers have, by default, shifted their focus to their individual programs and had less time or energy available to influence program directions on a statewide basis. Today's low resource environment requires that members of the broader agricultural education community in a given state work together in a shared leadership and planning model.

Practical strategic planning has been a long-accepted strategy for thoughtfully and proactively moving programs and organizations closer to their potential and desired future state. Even so, many people have been reluctant to embrace the possibilities revealed by focused strategic planning, despite its potential for creating the future desired by those in the organization or agency. However, without a shared roadmap to guide the organization or program to a targeted future point, any change within the organization will likely be reactive and random, often leading to chaos within the organization or an entrenched status quo. These same circumstances apply to school-based agricultural education. Without an effective leader or leadership body proactively charting a change course, advances in the program will likely be isolated, or worse, nonexistent.

How it Works / Methodology

Agricultural education in [State] had struggled for many years to provide coordinated leadership for school-based agricultural in the state, or more specifically, to develop and implement a set of strategic goals and action steps that were widely embraced by teachers. Multiple attempts to convene a leadership team charged with advancing agricultural education in the state had failed, and the momentum for positive and beneficial change was never established. With school-based agricultural education in the state operating in essentially maintenance mode, a group of four key leaders in the state decided to take action. This included the state agricultural education supervisor, the state FFA Foundation executive director, the state FFA executive secretary, and the agricultural education department chair at the University of [State]. Using quarterly meetings to conduct an honest appraisal of the condition of agricultural education in [State's] public schools, this leadership group began by developing a brainstormed list nearly 30 challenges, needs, and opportunities for [State] agricultural education. Through subsequent meetings, the group reached consensus on five strategic goals for the near term: (1) increase teacher engagement in professional development, (2) expand the number of agriculture programs in [State's] public schools, (3) increase statewide resources and support for agricultural education, (4) increase FFA membership, and (5) enhance program quality. The group next identified 10-15 components and indicators (measure of success) for each strategic goal. Finally, the key outcome for each strategic goal was identified. Next other agricultural education faculty members were asked to

provide critical feedback on the draft document. Four agriculture teacher focus groups were then held across the state as a crosscheck for the leadership group's draft work. Focus group participants were asked to share their views on the condition of agricultural education in the state and identify the dimensions of the program that were in most need of improvement. The focus group data were summarized and found to align very closely with the five strategic goals previously identified by the leadership group. Additional components and indicators for the five goals were pulled from the focus group data and added to the draft strategic plan. The next step was to leverage the draft strategic plan to rejuvenate Team AgEd in the state. The leadership group identified two representatives each from agriculture teachers (a secondary and middle school teacher), the FFA Association, the FFA Foundation, state agencies (one from the state department of education and one from the state department of agriculture), industry, and the university agricultural education program. These 12 individuals comprising the new [State] Team AgEd met to review and revise the draft strategic plan and develop an implementation strategy. The group agreed on a meeting schedule, mission, and member rotations. Three to four priorities were identified for each of the five strategic goals from among the larger set of goal components. These strategic goals and priorities will provide the roadmap for advancing [State] agricultural education in the next three to five years.

Results to Date / Implications

At this point [State] has a very well-focused and vetted strategic plan for proactively advancing school-based agricultural education. Such a plan has never existed in the state. In addition, Team AgEd in the state has historically been a loosely organized group that had only occasionally met and had never created and pursued a strategic action plan. Today, [State] Team AgEd has been reorganized, rejuvenated, and repositioned for future leadership success. Implementation teams are now being organized for each of the five strategic goals. [State] Team AgEd has accepted the all-important responsibility of monitoring implementation of the new strategic plan. Progress updates will be presented at the three meetings held each year. With a broad-based and active leadership team *and* a practical strategic plan that is embraced by all in the agricultural education community, the prospects for advancing school-based agricultural education in the state are very promising.

Future Plans / Advice to Others

Future plans are to proactively pursue implementation of the strategic plan, adapting where necessary, based on discussions at regular Team AgEd meetings. Progress reports will be periodically given to all groups affected by and contributing to the strategic plan. The vision of the leadership team is to use this initial strategic plan to begin a strategic planning cycle that continuously charts and re-charts the future of agricultural education in the state in the coming years. Two aspects of this idea deserve special attention by others who may wish to replicate this strategy for advancing agricultural education in their states. First, multiple meetings over an extended period of time will be required to establish the level of trust needed for an effective leadership team. The smaller, core leadership group that spearheaded this initiative met numerous times over a two-year period before the draft strategic plan emerged. Secondly, many people shy away from strategic planning because they've seen or helped develop strategic plans in the past that

have not been effectively implemented. A simplified, practical approach to strategic planning can lead to a very useful and exciting change document. A small group must "own" the responsibility for monitoring implementation of the strategic plan.

Costs / Resources Needed

The only costs associated with this idea are the hours invested in building the leadership team and creating the strategic planning document.

References

Phipps, L. J. , Osborne, E. W., Dyer, J. E. & Ball, A. L. (2008). *Handbook on agricultural education.* Thomson Learning, Inc. Clifton Park, NY.

Innovation Idea

Community Leadership: A New Academic Major Consisting of Two Specializations in Community & Extension Education and Leadership

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Community Leadership: A New Academic Major Consisting of Two Specializations in Community & Extension Education and Leadership

Introduction/Need for Innovation or Idea

Due to increasing complexity and an accelerating pace of change, the U.S. higher education system is being challenged to address societal needs and the expectations of future graduates. According to Bonnen (1998), the land-grant tradition introduced "service to society" as a function of U.S. higher education, and due to the changing context, the outreach mission of the land-grant university system is evolving. Community Leadership has been developed as a new undergraduate major that integrates the land-grant teaching function and its outreach role. The major consists of two specializations: Community & Extension Education and Leadership.

The Community Leadership major is designed to equip students with knowledge and skills needed for leadership in the future. The curriculum emphasizes leadership, which involves preparing graduates with the capacity to influence positive change. Leadership is viewed as a dynamic process that accommodates the complexity of relationships occurring among people from potentially diverse backgrounds whose behaviors, thoughts, or actions may be motivated or inhibited by the leadership process. Recent research suggests that leaders who understand themselves as well as others have a more positive impact on their followers during periods of transformational change (Roy & Ken, 2011). Interpersonal and group relations are recognized as key elements that affect the direction and rate of change in each unique context.

Community refers to a group of people organized around common values or shared beliefs, but not necessarily limited to a geographical or physical location. McMillan and Chavis (1986) identified the four elements of community as: membership, influence, integration and fulfillment of needs, and shared emotional connection. Communities are formed and evolve over time as social organizations, some of which function with a high degree of definition, while others operate much more loosely. As a result, another emphasis within the Community Leadership major has emerged- community outreach education -- which is critical to strengthen people's lives and communities through nonformal education. The purpose of this poster is to describe the evolution of this new major designed to serve students pursuing careers in leadership and outreach education.

Program Phases

Based on individual studies and faculty assessments, the term Community Leadership was selected as an appropriate name for this major in order to communicate the skills graduates will possess- (1) an awareness of **leadership** which combines the continuing need for change with appropriate influence strategies, and (2) preparation to exert that leadership influence in the context of a **community** of people linked by common values or shared beliefs.

Community Leadership encompasses two specializations: (1) Community & Extension Education and (2) Leadership. Community & Extension Education is a revision of the current Extension Education specialization while the Leadership specialization is a revision of the Leadership Option, within the Agricultural and Extension Education major (now being re-named as Agriscience Education focusing on

secondary school agriculture teacher licensure preparation). Core courses required for both specializations include: Introduction to Agricultural Communication, Education, and Leadership; Foundations of Personal and Professional Leadership; Advanced Agricultural Communication Technology; Leadership in Teams and Community Organizations; Volunteer and Human Resource Management; and Professional Leadership Ethics.

The initial impetus for pursuing this curricular change was the impending transition from a quarter to semester system. During the transition period, all academic majors and programs were examined to best serve students and meet the changing needs of our communities, state and nation. The intent was not to combine specializations, but rather to build upon similarities evident between the specializations, and as a result, the new major was proposed. The primary mission of both specializations is to prepare future community leaders, extension educators, practitioners, and outreach professionals to promote positive change through learning partnerships that strengthen individuals, families, and communities. In essence, the Community & Extension Education specialization and the Leadership specialization in the Agricultural and Extension Education major are being joined to form the Community Leadership major.

Implications

Anticipated implications resulting from the creation of the Community Leadership major are twofold. First, Community Leadership and its two specialization areas (Leadership and Community & Extension Education) best describe the curriculum and course content developed based on the research focusing on required competencies to be successful in outreach and extension education (Scheer, Cochran, Harder, & Place, 2011) and in the area of leadership (Moulton, Sunardi, & Ambrosini, 2006). In addition, student input was gathered to determine how such a change may benefit them. Their responses have been overwhelmingly positive. Second, current job positions and emerging occupations in the 21st century require the development of human capital through process-oriented skills that focus on responding to consumer needs and incorporating shared leadership practices. The Community Leadership major will prepare students for positions in Extension systems, outreach and engagement, leadership roles in profit/non-profit organizations, and many other careers, depending on the choice of student's academic minor, dual major, and/or internship experience(s).

Advice to Others

As Bonnen (1998, p. 42) stated, ". . . to prosper in an era of limited resources, the individual public institution must differentiate its product- play to its strengths and unique role in its environment or societal niche. That niche will determine most of the demand on an institution." Many higher education institutions are faced with reduced funding and a multitude of challenges due to the ever-changing environment; however, whenever there is challenge, opportunities emerge. This innovative idea brings together undergraduate degree program specializations in Community and Extension Education with Leadership. It is also an excellent curricular model for other land-grant universities interested in revising their undergraduate program, while serving as a practical prototype for curriculum development in leadership education.

Resources Needed

The resources needed to develop a new major are faculty time, dedication and perseverance to conduct research and literature reviews for skills and competencies essential for Community & Extension Education and Leadership; collecting and analyzing student input; and navigating the multiple levels of a land-grant university to obtain support and approval for a new major.

References

Bonnen, J. T. (1998). The Land-Grant idea and the evolving outreach university. In R. Lerner, & L. A. Simon (Eds.), *University-community collaborations for the twenty-first century: outreach scholarship for youth and families* (p.24- 72). New York: Garland.

McMillan, D. W., & Chavis, D. M (1986). Sense of Community: A Definition and Theory. *Journal of Psychology*, *14*, Retrieved from http://gageparkhs.enschool.org/ourpages/auto/2011/5/7/37616703/Sense%20of%20Community-McMillan%20and%20Chavis.pdf

Moulton, S., Sunardi, O. & Ambrosin, G. (2006). Competency: Development, Integration, and Application. *Business & Management Journal Bunda Mulia, 2*(1), 12-20. Retrieved from http://www.ubm.ac.id/manajemen/images/doc/journal/competency.pdf

Roy, S. & Ken, P. (2011). Follower Perceptions of The Emotional Intelligence of Change Leaders: A Qualitative Study. *Leadership*, *7*(4), 435-462

Scheer, S. D., Cochran, G.R., Harder, A. & Place, N. T. (2011). Competency Modeling in Extension Education: Integrating an Academic Extension Education Model with an Extension Human Resource Management Model. *Journal of Agricultural Education*, *52*(3), 64-74. doi: 10.5032/jae.2011.03064

Innovative Poster

Conversation Starters: Helping Extension Professionals Incorporate Public Policy

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Conversation Starters: Helping Extension Professionals Incorporate Public Policy

Introduction

During the past 20 years, the land-grant university system has refocused efforts to include greater participation from those involved in agriculture and natural resource (ANR) management, as well as attempted to empower clientele through extension programs by providing access to a wider range of resources when making decisions (McDowell, 2001; Spanier, 1999). Research has shown extension professionals are a trusted source of information for producers, serving as opinion leaders within their communities (Rogers, 2003). In order to be effective opinion leaders, extension professionals must understand their stakeholders and the communities in which they reside (Scheer, Cochran, Harder, & Place, 2011) including the challenges they face.

Federal public policies set the required processes, regulations, and conservation efforts that impact those working within ANR management as well as consumers. As such, federal public policies impact extension clientele on multiple levels. For example, agricultural producers and growers must understand and meet required regulations so their products can be sold. The information in these policies is critical to the ANR industry, but the education tools designed to ensure policy comprehension and informed decision-making is difficult to find. Extension professionals are in positions of leadership within their communities and relied upon for research-based information, but are rarely prepared to converse about public policy, as they must remain unbiased and cannot appear as advocates.

How it works

To facilitate these crucial conversations, two interdisciplinary centers at the [University] have collaborated to create an online environment (Conversation Starters) that provides extension professionals an easy way to stay up-to-date on current federal public policy. Conversation Starters offers information and tools to assist in incorporating policy into everyday conversations with volunteers, customers and clients. The [Center #1] measures the perceptions and communication of public policy by finding tested, research-based solutions to agriculture and natural resources issues, resulting in effective communication and proactive education strategies. The [Center #2] examines how current and potential public policy influences the knowledge, attitude and aspirations of those it directly impacts, with the goal of helping the affected people make informed decisions as to what the policy should be.

[Center #2] and the [Center #1], with cooperation from [State] Extension, other state Extension services, and partners at universities across the country, examine relevant federal policies and translate the important information into accessible easy to use tools for extension professionals (see Figure 1). The tools supply Extension professionals with relevant talking points, dialogue-starting questions, and worksheets built to foster conversations with volunteers, customers and clients. The tools offer extension professionals an easy way to provide unbiased, research-based perspectives on federal

public policy, assisting them in developing a stronger relationship with clients as a reliable source of information.

Implications

Previous research by the [Center #1] has identified the need for Extension to market itself more effectively and create more local community partnerships. Research has consistently shown that members of the general public have a demonstrated need for information and education about ANR policy issues affecting their communities. Extension professionals who utilize the Conversation Starters materials would directly answer that need. With more information and education, constituents and producers alike can develop ideas and a method by which to evaluate and analyze future potential policies.

Figure 1: Conversation Starters tools.

Future plans

Conversation Starters will be expanded in an effort to provide a source of federal public policy information for extension professionals nationally. The team has discussed the potential of becoming an eXtension Community of Practice in an attempt to make Conversation Starters an interactive environment, providing a safe place for extension professionals to discuss and obtain federal public policy related information. Lastly, an advisory board to help focus and refine the pilot program, as well as extend its reach to more state Extension services will be created.

Resources needed

To facilitate the Conversation Starters partnerships and expansion, as well as the creation and maintenance of content, a collaborative work environment with the technological infrastructure and assistance associated with web publishing and administration is needed. Team members will require access to training modules for the creation, entry and maintenance of content to improve competencies. Finally, assessment mechanisms to refine the pilot program's methods and evaluate its effectiveness will be a needed resource.

References

McDowell, G. R. (2001). *Land-grant universities and Extension into the 21st century: Renegotiating or abandoning a social contract.* Ames, IA: Iowa State University Press.

[Center #1]. (2011). *Focus groups & strategic planning with [University]*. [City, State]: [Center #1]. Retrieved from http://www.[center#1].com/research/completed-projects/[university]planning

Rogers, E. M. (2003). *Diffusion of innovations, 5th edition*. New York, NY: Free Press Inc.

Scheer, S. D., Cochran, G. R., Harder, A., & Place, N. T. (2011). Competency modeling in extension education: Integrating an academic extension education model with an extension human resource management model. *Journal of Agricultural Education, 52*(3), 64-74. Doi: 10.5032/jae.2011.03064

Spanier, G. B. (1999). Enhancing the quality of life: A model for the 21st century land-grant university. *Applied Developmental Science, 3*(4), 199-205. Doi: 10.1207/s1532480xads0304_3

Coordinating the Chatter: Using Twitter as a Medium for a Student Teacher Community of Practice

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Coordinating the Chatter: Using Twitter as a Medium for a Student Teacher Community of Practice

Introduction

Student teaching is the capstone component of a pre-service teacher education program and has been described as one of the most crucial components of the teacher preparation process, (Alger & Kopcha, 2009; Edgar, Roberts, & Murphy, 2011; Kasperbauer & Roberts, 2007). In a study reviewing student teacher concerns, Fritz and Miller (2003) posited, "one way for student teachers to reflect on their daily concerns and receive feedback is to communicate with other student teachers and supervisors" (p. 51). Electronic dialogue can assist student teachers in developing critical reflections as well as provide ongoing support throughout the student teaching experience (Whipp, 2003). Developing an electronic community of practice enables student teachers to build relationships and learn from each other (Wegner, 2007).

The purpose of this innovative idea poster is to explain how the Agricultural Teacher Education program at */University/* utilized the microblogging tool Twitter (Java, Song, Finin, and Tseng, 2007) for student teachers to ask questions, share resources, and receive feedback. Twitter is a microblogging tool that allows users to send 140 character messages called tweets to their followers. During the spring 2011 semester, 22 student teachers from */University/* participated in an electronic community of practice. Cooperating teaching centers were located in three states from the North Central and Southern Regions of the American Association for Agricultural Education. Four */University/* faculty supervisors facilitated the social media discussions.

Procedures

The agricultural education student teaching coordinator developed a list on a Twitter account developed specifically for the student teachers to use during the 14-week student teaching experience. As part of the pre-student teaching orientation session, the pre-service teachers were trained on Twitter as a networking resource. Student teachers were encouraged to ask questions, share teaching resources, and provide feedback to each weekly. Additionally they were asked to reflect on their student teaching experiences through a weekly blog that was shared with the community of practice. Potential concerns were addressed with the student teachers prior to engaging in the electronic community of practice. Ethical communication issues regarding appropriateness and professionalism of tweet posts were discussed. Faculty tweeted prompts to engage the student teachers and posted other announcements important to the students.

Results

Student teachers who participated in the Twitter-facilitated community of practice utilized the virtual, microblogging environment to ask questions, share resources, and participate in reflective practice regarding their student teaching experiences. Several of the student teachers' tweets are categorized below.

Students asked each other for advice:

> "Question for everyone…What do you do if students don't turn in work on time? Give them a zero until they get things done?"

> "Our grade system doesn't penalize students if you do not enter a score so we enter 50% until it is done so the report is more accurate."

Students shared what worked:

> "Tried a different motivation technique today [and it] worked like a charm. I gave each student a note card and asked them two review questions."

> "I drew the cards out of a bucket and the correct ones received a candy bar."

Students shared their frustrations:

> "I am starting to become very stressed out but am learning that I am now a teacher and don't have time for some other activities."

> "Teacher or glorified babysitter…today made me wonder."

Faculty facilitated discussion:

> "Cell phones don't have to be a distraction in class. In fact, they can be valuable learning tools. Share with the group your school's cell phone policy and if you use them in class."

> "We use them in our classroom. Check out polleverywhere.com."

Students shared their appreciation:

> "I would like to commend your efforts with the wonderful Twitter Blog idea…it has been a nice way to communicate with others."

Student teachers have continued to use Twitter in their first teaching positions. They have also adopted Twitter for communication within their FFA Chapters.

Recommendations and Future Plans

Each semester the class of student teachers will participate in Twitter microblogging. Upon implementing the Twitter-based, electronic community of practice with the next group of student teachers, three changes will be implemented to improve the activity. Student teachers will be required to develop a separate account to be used only for interaction within the student teaching community of practice. This will keep students from blending personal and professional posts, especially those not pertinent to student teaching. Specific posting requirements will be given and participation will be graded

utilizing rubrics developed for threaded discussions. Additionally, faculty will continue to engage beginning teachers throughout their first year of teaching through the existing Twitter list.

Resources Needed

Although Twitter is a free service, access is required through a computer with internet access, smart phone or tablet technology. Some school districts block social media in their buildings so alternative locations with Twitter availability may need to be identified.

References

Alger, C., & Kopcha, T. J. (2009). eSupervision: A technology framework for the 21st century field experience in teacher education. *Issues in Teacher Education, 18*(2), 31-46. Retrieved from http://www.caddogap.com/periodicals.shtml

Edgar, D. W., Roberts, T. G., & Murphy, T. H. (2011). Exploring relationships between teaching efficacy and student teaching—Cooperating teacher relationships. *Journal of Agricultural Education. 52(1), 9-18. doi:10.5032/jae.2011.01009*

Fritz, C. & Miller, G. (2003). Concerns expressed by student teachers in agriculture. *Journal of Agricultural Education. 44(3), 47-53. doi:* 10.5032/jae.2003.03047

Java, A., Song, X., Finin, T., and Tseng, B. (2007). Why we Twitter: Understanding the microblogging effect in user intentions and communities. Proceedings from *WebKDD*. San Jose, CA.

Kasperbauer, H. & Roberts, G. (2007). Changes in student teacher perceptions of the student teaching-cooperating teacher relationship throughout the student teaching semester. Journal of Agricultural Education. 48(1), 31-41. doi: 10.5032/jae.2007.01031

Wenger, E. (2007). Communities of practice. A brief introduction'. *Communities of practice* Retrieved from http://www.ewenger.com/theory/

Whipp, J. L. (2003). Scaffolding critical reflection in online discussions: Helping prospective teachers think deeply about field experiences in urban schools, *Journal of Teacher Education 54*(4), 321-333. doi: 10.1177/0022487103255010

Innovative Idea

Creation of an Online Database to Aid in the Identification and Selection of Outside Members of the Graduate Committee

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Creation of an Online Database to Aid in the Identification and Selection of Outside Members of the Graduate Committee

Need for Innovation

An important step towards the completion of graduate studies in the United States is the establishment of an advisory committee. A committee provides advice, discussion, feedback, and networking for the graduate student as they prepare a thesis or dissertation. The selection of the advisor is perhaps the most critical decision a student can make, but no one person can satisfy all the educational needs of a student. Therefore, a group of mentors is established to collectively attend to these needs (Fischer & Zigmond, 1998). Other benefits of having multiple advisory committee members include student exposure to expertise in multiple domains, experience interacting with various personalities, and increased likelihood that at least one mentor will be available when needed (Jefferies & Skidmore, 2010).

Graduate students with mentors are more productive during and after graduate school, and are more satisfied by their graduate school experience (Wrench & Punyanunt, 2009). Research shows that more structured mentorship opportunities are needed in graduate programs (Donovan & Donovan, 2009). The ideal mentor for a student is determined, in part, by demographic attributes as well as academic classification (Rose, 2005).

Often, graduate schools require that the advisory committee be made up of one or more faculty members with an appointment to a department other than the student's major department ([State] University, n.d.). Students and their advisors may have an easier time locating appropriate internal members for the advisory committee, as they work together in the same department. We expect that, at times, it can be a challenge to locate potential members from an external department, and have observed this phenomenon during our own graduate experience. Advisors and students may have to seek out compatible committee members from other areas of the university as the graduate student population grows more diverse in its characteristics and interests.

How it Works

In order to facilitate the identification and evaluation of potential committee members from external departments, the graduate student society of an agricultural education department at a United States land-grant institution have created a restricted online database of the external advisory committee members who have served on the committees of graduates. Each external committee member receives a profile on which their contact information and research interests are listed. Graduate students in the department may create a free account on the website to browse profiles or add comments and ratings for members of their own committee. Ratings are based on several dimensions of professional attributes, including clear communication, availability, and subject expertise. Comments can include tips for working with the committee member, including notes such as, "Prefers telephone conversations," or, "Leaves the country every summer."

Agriculture increasingly requires a trans-disciplinary approach to problem solving, and will require collaboration from an ever-growing number of disciplines, especially as diversity in our field increases. For this reason, we have aimed to provide a platform for connecting with an ever expanding social network of faculty members within the university.

Results to Date

While the back-end database programming and front-end user interface are both complete, it is expected that it may take a few semesters of input from graduating students before the database becomes a fully functional resource, as input from graduating students is necessary in order to have a robust amount of data. However, the data present on the database at this time provides a good starting point for the search of a committee member external to the student's major department.

Future Plans / Advice to Others

This particular implementation of the database is specific to a social sciences department in a college of agriculture; however, the concept could easily be replicated to all disciplines where advisors and students work jointly to identify and select the graduate advisory committee.

Faculty and students could also utilize this database to locate collaborators for research projects, especially as interdisciplinary collaboration has become an essential component of many research initiatives.

The concept could be reversed so faculty from other departments could indicate their interest in serving on graduate committees by creating a profile for themselves on the database. Service on committees may assist these faculty members during the tenure and promotion process.

Careful consideration must be made to moderate comments left on the database, especially if access is open to any who sign up. Relationships with other colleges or departments might be harmed if overly negative or critical comments are discovered. The focus of the database should be on the academic interests as well as professional strengths and weaknesses of the committee member, not on personal characteristics.

Costs

Hosting for this database was provided through the department's internal webserver and was initially set up by the department's microcomputer / LAN administrator at no additional cost, other than a few hours of time. Drupal is an open-source content management platform, available for free download. Likewise, all extensions utilized were free of cost (Drupal, n.d.). If the project was hosted on external servers, we estimate the cost for web hosting and a domain name at approximately five dollars per month (1&1

Internet, Inc., 2012).

References

1&1 Internet, Inc. (2012). Web hosting – 1&1 Internet. Retrieved from http://order.1and1.com/Hosting

Donovan, A. & Donovan, J. (2009). Mentorship in postgraduate training programmes: Views of Canadian programme directors. *Medical Education*, 43, 155-158.

Drupal. (n.d.). About Drupal. Retrieved from http://drupal.org/about

Fischer, B. A. & Zigmond, M. J. (1998). Survival skills for graduate school and beyond. New *Directions for Higher Education*, 101, 29-40.

Jefferies, A. & Skidmore, M. (2010). Evaluation of a collaborative mentorship program in a multi-site postgraduate training program. *Medical Teacher*, 32, 695-697.

Rose, G. L. (2005). Group differences in graduate students' concepts of their ideal mentor. *Research in Higher Education*, 46(1), 53-80.

[State] University. (n.d.). *[State] University 2011-2012 graduate catalog*. [City], [State].

Wrench, J. S. & Punyanunt, N. M. (2009). Advisee-advisor communication: An explanatory study examining interpersonal communication variables in the graduate advisee-advisor relationship. *Communication Quarterly*, 52(3), 224-236.

Innovative Idea

Engaging the Campus in Agricultural Issues and Perspectives: A Government and Educational Partnership Prepares the Next Generation of Agriculture Leaders

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Engaging the Campus in Agricultural Issues and Perspectives: A Government and Educational Partnership Prepares the Next Generation of Agriculture Leaders

Introduction

Leadership does not exist in a vacuum; it is the process of influencing individuals in an organization in an attempt to achieve their organization's goals, while taking into account the people who are being led, the task that the people are performing and the environment in which the people and the task exist (Ivancevich et al., 2011). An effective leader should be proactive and position their organization to be ready to adapt and stay current with the numerous changes occurring in the world (Pisapia 2009).

The need for strong leaders in agriculture is now more important than ever. Effective leadership is required to take each state's agriculture industry through the next era of change, including environmental controversies, advances in technology, and budget deficits (Adrian et al., 2004; Carlson, 2010; Reganold et al., 2011). Commissioners of Agriculture (Commissioners) are elected or appointed officials who are the leaders of agriculture for their state. They promote the agricultural industry, while protecting consumers and the environment (National Association of State Departments of Agriculture, 2011). Opportunities to communicate information about agriculture should be available to students and the general public. Universities can involve Commissioners to develop new leadership programs in order to prepare students to have the skills necessary to become future leaders in the field of agriculture. The university as a source of knowledge can facilitate communications about the importance of agriculture. Thus, the Speaker Series was developed at [UNIVERSITY].

How it Works

The Commissioner's Speakers Series is a joint project of [UNIVERSITY'S] [College] and the [STATE] Department of Agriculture and Consumer Services (Department). The mission of the Speakers Series is to 1) combine the resources of the College and Department to further an interest common to both of them, namely preparing today's college students to lead and succeed in the agricultural sector upon completion of their education; 2) effectively communicate timely and accurate information about agriculture; and 3) create a student/agriculture leader network.

The Commissioner hosts two spring semester sessions as part of the campus Speakers Series. The Commissioner and university faculty member collaborate to determine the topics for the Speakers Series. The sessions focus on topics in the agriculture arena including agricultural biotechnology, agricultural policy, sustainable agriculture, local foods, and domestic and international marketing of agricultural products. Four experts in the particular topic area are invited by the Commissioner to serve on a panel. The experts include university faculty and researchers, agriculture commodity leaders, politicians, farmers, and business owners. Each expert gives a ten minute presentation to the audience and often employs the use of PowerPoint presentations. After the presentations, the Commissioner asks questions to the panelists. The Commissioner then serves as the

facilitator and opens up the floor for discussion.

After the Speakers Series sessions, light refreshments are provided at a reception. The reception is for the panelists, students and faculty, and the Commissioner and his staff. The reception provides an opportunity for the students to engage with the agricultural leaders and the Commissioner. Non-agriculture student groups and the general public may also attend.

Results to Date/Implications

During the spring 2009, 2010, and 2011 semesters at [UNIVERSITY] the Commissioner and the College partnered to host Speakers Series events on campus. In total, six Speakers Series have been held with an average attendance of 100 students and faculty in the [College] at each event.

Through the Speakers Series, students have an excellent understanding of how the university, government, business, and agricultural leaders and Department work together to enhance the agriculture industry. Students and others also gained knowledge about agricultural policy and current issues. By interacting with the Commissioner and the various speakers during the Speakers Series, students were able to build a relationship with a government official and other agricultural leaders.

Future Plans/Advice to Others

Two Commissioner's Speakers Series events will be held in March and April at [UNIVERSITY]. The Speakers Series will also be held in March and April at three other institutions across [STATE]. One concern is that when an incumbent must run for office, it is not permitted for the campaigning politician to host events on campus. The Speakers Series is a model for a Council of State Member, particularly the Commissioner of Agriculture to bring his/her expertise to the university aside from political party or success as a politician.

The Commissioner's Speakers Series is an easy event to plan for a university because each session is a one-time event. The event also allows the College to build a partnership with the Department of Agriculture. The partnership is valuable to the College and opens doors for future events.

Costs/Resources Needed

The cost of time is the most significant for the Commissioner's Speakers Series. A faculty member at the university is needed to reserve a venue to host the Speakers Series. The faculty member is also needed to work with the university to allow the Commissioner to come to campus. A staff member at the Department is needed to organize speakers for the Commissioner's Speakers Series.

The faculty member at the university and the staff member at the Department are needed

to organize receptions after the Speakers Series. Commodity organization sponsors and Agricultural Foundation donations (~$1,000) support the receptions following the Speakers Series. No student fees or tuition are used to pay for the receptions.

References

Adrian, A., Shannon H., Norwood, P., Mask, L. (2005). Producers' perceptions and attitudes toward precision agriculture technologies. *Computers and Electronics in Agriculture*, 48(3), 256-271. Retrieved from http://www.sciencedirect.com/science/article/pii/S0168169905000852.

Carlson, B. (2010, February 02). Idaho state department of agriculture faces budget challenges. *The Idaho Business Review*. Retrieved from http://idahobusinessreview.com/2010/02/02/ag-department-faces-budget-challenges/.

Ivancevich, J, Konopaske, R, & Matteson, M (2010). *Organizational behavior and management*. (9 ed.). New York: McGraw-Hill/Irwin.

National Association of State Departments of Agriculture. (2011). *Nasda*. Retrieved from http://www.nasda.org/.

Pisapia, J. (2009). *The strategic leader: New tactics for a globalizing world*. Charlotte, N.C.: Information Age Pub. Retrieved from http://www2.lib.ncsu.edu/catalog/record/UNCb6057513.

Reganold, J. P, Jackson-Smith, D, Batie, S. S, Harwood, R. R, Kornegay, J. L, Bucks, D, Flora, C. B, Hanson, J. C, Jury, W. A, Meyer, D, Schumacher, A, Sehmsdorf, H, Shennan, C, Thrupp, L. A, Willis, P. (2011, May 6). Transforming U.S. agriculture. *Science*, *332*, 670-671. Retrieved from http://www.sciencemag.org.prox.lib.ncsu.edu/content/332/6030/670.full.pdf

Innovative Idea

Enhancing STEM Learning Experiences Through Advanced Life Science (ALS) Courses

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Enhancing STEM Learning Experiences Through Advanced Life Science (ALS) Courses

Introduction

As the agriculture industry shifts to more scientific careers, the need for agricultural education programs to integrate science into the curriculum is at an all-time high. In addition, for many states, educational standards and graduation requirements, as well as college entrance requirements, have placed overwhelming pressure on school systems and educators to incorporate more rigor into their educational programs. The result is that there is less time for students to participate in elective courses (Thompson & Balschweid, 1998). Also, due to a decreasing number of opportunities available for students to take elective courses, it is becoming more important for agricultural education programs to find a way to make the courses in their program more appealing to a greater range of students. The need for traditional agricultural education programs to change is apparent, and if a change towards more rigorous academic integration is not achieved, agricultural education programs risk becoming irrelevant. The ability of agriculture programs to offer their courses as science credit is one strategy that has been used to help programs remain relevant in the changing educational landscape. In [State], the Advanced Life Science (ALS) courses were created to give students the opportunity to learn complex science topics in a more relatable format utilizing animal science, plant & soil science, and food science. Balschweid and Huerta (2008) found that "teaching biology using animal agriculture as the context was effective for helping students appreciate and understand science better than traditional methods of teaching biology" (p. 18). Not only are students being given the opportunity to learn difficult science concepts contextually, they also have the opportunity to apply science concepts previously learned while receiving science credit towards any high school diploma. Overall, "the pursuit to integrate science into agriculture programs could improve the image and quality of programs while meeting the needs of a rampant changing industry" (Thompson, 1998, p. 77).

Innovativeness of the Advanced Life Science Program

Thompson (1998) stated that by integrating rigorous science into the agricultural education programs, students will see academic courses as more relevant, as well as demonstrate higher academic achievement**.** The ALS courses addressed Thompson's recommendations through its focus on life science concepts through the components of "college preparation and inquiry-based learning all while utilizing the context of animal science, food science, and plant & soil science" (Authors, 2009, p. 1). The ALS courses utilize labs and student-based teaching approaches that assist students in developing their science skills while using agriculture as a context to teach science, technology, engineering, and mathematics (STEM). By utilizing labs and a variety of teaching methods, students are able to acquire science credit towards any [State] academic diploma. In addition, the College of Agriculture at [State] University has three courses that are linked with the ALS program, ALS: Animals, ALS: Plants & Soils, and ALS:

Foods courses that are eligible for dual credit. If a student successfully completes the ALS course material and the ALS dual credit exam, students will receive dual credit to apply towards a postsecondary degree. The dual credit earned through the University looks favorably towards college admission and can be transferred to other academic institutions if a student chooses not to attend [State] University.

Results to Date

Through the ALS courses, students are better prepared to meet the rigors of a changing agricultural industry. Balschweid, Thompson, and Cole (1998) note that "students taught by integrating agriculture and scientific principles demonstrated higher achievement than did students taught by traditional approaches" (p. 3). This is due, in part, because students have the opportunity to learn in a more contextually-rich instructional environment; therefore students gain a better understanding of complex scientific concepts. The ALS courses have also provided opportunities for students to earn science credit towards their high school diploma as well as dual credit **towards a postsecondary degree**. For the 2011-2012 school year there are 1,849 students enrolled in ALS: Animals, 666 students enrolled in ALS: Foods, and 317 students enrolled in ALS: Plants & Soils. Of these students, over 500 have been accepted through [State] University to take the courses for dual credit. In addition, the ALS: Animals course has the fourth largest enrollment this year when it comes to dual credit agriscience courses in [State]. Finally, the ALS courses have attracted students of diverse backgrounds that would not normally enroll in agriculture courses. This is important considering that "appealing to a broad audience with various motives for enrolling in agriscience courses should be a driving force of agriculture programs (Balschweid, Thompson, & Cole, 1998, p. 3)."

Future Plans

To ensure that high school teachers are adequately prepared for teaching the ALS courses, [State] University requires a summer ALS training workshop. However, because of time constraints prohibiting teachers from traveling during the summer, an alternative distance training program is being developed. By utilizing a variety of training methods, it is anticipated that there will be an increase in the overall growth of the number of teachers teaching the ALS courses.

Costs and Resources Associated with Developing the ALS Courses

The costs and resources that were associated with developing the ALS courses included:

- The summer ALS training workshop for teachers is $350 per person.
- The development of the ALS distance training program.
- The cost to pay reviewers of the ALS academic standards during course development.

- The cost of lab kits for the initial implementation of the ALS courses in select high schools across the [State].
- The cost of printing the ALS posters and brochures for marketing of the program.
- The cost of outsourcing the ALS standards to an external company for the development of curriculum lesson plans, labs, and additional teaching materials.
- The costs of utilizing a nationally approved curriculum assessment system for enhanced student evaluation.

References

Authors. (2009). *Advanced life science program governance document.* Unpublished document.[State] University, City.

Balschweid, M.A., & Huerta, A. (2008). Teaching advanced life sciences in an animal context: agricultural science teacher voices. *Journal of Agricultural Education*, *49* (1), 17-27.

Thompson, G., & Balschweid, M.A. (1998). Agriculture teachers' perceptions of Integrating science in the Oregon agricultural science and technology program. *Paper Presented at the National Agricultural Education Research Meeting.* New Orleans, LA, 25, 1-14.

Thompson, G. (1998). Implications of integrating science in secondary agricultural Education programs. *Journal of Agricultural Education*, *39* (4), 76-85.

Balschweid, M.A., Thompson, G., & Cole, R.L. (1998). Agriculture and science integration: A pre-service prescription for contextual learning. *Paper Presented at the AmericanVocational Association Convention*. New Orleans, LA, 1-13.

Innovative Idea

Evaluating industry sponsored professional development education: A focus on the Lincoln Electric Welding Technology Workshop

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Evaluating industry sponsored professional development education: A focus on the Lincoln Electric Welding Technology Workshop

Introduction

Professional development education for teachers is essential to improving teacher retention, program continuity, and the preparation of fully qualified and highly motivated agricultural educators at all career stages (Osborne, 2007). The *National Research Agenda for Agricultural Education and Communications,* Research Priority 3, suggests that teachers "must be prepared for discovery science, teaching and learning, science, technology, engineering, and mathematics (STEM) integration" (Doerfert, 2011, p. 19). Additionally, Doerfert (2011) also suggested that "teachers stay up-to-date with the ever-changing advancements in education and in the agriculture industry" (p. 25). Kent (2004) found that successful professional development must be sustained overtime and directly related to everyday teaching. To provide professional development to teachers, it is necessary to link industry experts with teachers to improve their competence in teaching curriculum, establishing mechanisms of consultation and support, and to introduce new ideas (Little, 1993, p.138). Furthermore, numerous studies have found that the teachers' expertise and teaching ability is crucial for student achievement (Darling-Hammond, 1997; 2000; Rivers & Sanders, 1996).

Arguably, educators are in need of constant professional development to meet the needs of their positions; however, little research has been conducted to determine if industry supported professional development education are effective. The Lincoln Electric Company has been providing welding technology workshops in [STATE] since 2003 for agricultural educators. However, a *holistic* assessment of the effectiveness of this workshop and teachers professional development needs is not apparent in the literature and, therefore, should be assessed to determine if teachers actually improve skill acquisition and improve their teaching ability.

Program Phases

To understand a teachers professional development needs and to better assess workshops effectiveness, the Borich's (1980) needs assessment model served as the conceptual framework for this study and as a guide for the proposed evaluative model. Because Borich's model was proposed in 1980, numerous studies in the broader agricultural education literature have used the model to varying extents. When considering a teacher's efficacy (competence) in relation to a single item (competency), teachers may vary; thus, Borich proposed three perspectives of competency—knowledge, performance, and consequence to "…permit a more refined evaluation of the training program" (p. 40). Therefore, the proposed model for the workshop evaluation/teacher professional development need evaluation incorporated Borich's (1980) needs assessment model within a paper instrument, an industry developed exam, and an authentic assessment of welding skills.

The Lincoln Electric welding technology workshop is conducted in numerous locations throughout the United States, usually in cohorts of 10 to 25 individuals. This program has focused on cohorts of [STATE] school-based agricultural educators. Before instruction is provided to workshop participants, three types of assessments were proctored: 1) Each

individual in the cohorts completed a self-administered questionnaire to assess their self-perceived efficacy. The questionnaire was developed using the Borich (1980) needs assessment model, which allowed individuals to rate the importance of each competency and their self-perceived ability to perform and knowledge of each competency. 2) Individuals' knowledge of competencies related to the workshop was assessed through a written exam. The exam was developed, based on industry identified competencies incorporated into the welding workshop. 3) Individuals' ability to perform competencies (i.e. performing a welding test on steel plate – root bend test, face bend test, visual appraisal) was assessed through an applied performance measure used in industry and developed by the American Welding Society. Individuals were provided with the necessary materials and equipment to perform the competency and instructed on what to do rather than how to complete the competency. After individuals completed the performance measure, the outcome was assessed through a rubric-based visual inspection, and a series of destructive tests to determine the physical attributes of the competencies performed. After workshop instruction was finished, the cohorts completed the three types of assessments again.

Results to Date/Implications

To date, data have been collected from two cohorts participating the Lincoln Electric welding technology workshop ($n = 26$). Data will continue to be collected form future cohorts, then analyzed holistically; data from each assessment will be aggregated and analyzed with equal weighting. Comparisons will be made to determine if differences exist between individuals' perceived abilities and measured or actual abilities. Results of this study may support or challenge the approach to conducting needs assessments based on self-perceived ability.

Future Plans/Advice to Others

To evaluate an industry sponsored workshop and to determine the professional development needs of teachers, a great deal of coordination is required amongst the researchers, workshop coordinators, and workshop instructors. Researchers advise that a data collection protocol be established prior to the workshop being implemented to ensure accurate and complete data collection efforts.

Costs/Resources Needed

To evaluate the effectiveness of an industry sponsored workshop, such as the Lincoln Electric Welding Technology Workshop, and to evaluate the professional development needs of the participants, an institution would need adequate classroom and laboratory space and industry partnerships (i.e. use of modern welding equipment and industry led instruction) in order to host an industry sponsored workshop for teachers. Furthermore, a valid and reliable assessment tool must be developed to collect data concerning teachers professional development needs in the skill areas associated with the welding technology curriculum taught in the workshop. To assess the knowledge of the teachers in the areas associated with welding technology, an industry developed multiple choice exam was utilized. For an authentic assessment of welding skill, pre and post welding coupons must be fabricated prior to the workshop. The cost of the workshop for the participants involved was $250 per person. This cost included all of the welding consumables, metal for the welding coupons, and the printing costs associated with data collection.

References

Borich, G. D. (1980). A needs assessment model for conducting follow-up studies. *The Journal of Teacher Education, 31*(3), 39-42. doi: 10.1177/002248718003100310

Darling – Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. New York: National Commission on Teaching & America's Future.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, *8*(1), 1-49.

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Kent, A. M. (2004). Improving teacher quality through professional development. *Education*, *124*(3), 427 – 435.

Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis*, *15*(2), 129-151.

Osborne, E. W. (Ed.) (2007). *National research agenda for agricultural education and communication: 2007-2010.* Gainesville: University of Florida, Department of Agricultural Education and Communication, 20.

Expanding the trip to National FFA Convention to incorporate a high impact field experience

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Expanding the trip to National FFA Convention to incorporate a high impact field experience

Introduction/need for innovation or idea – [State] University's [college of agriculture] embraces the concept of providing a "stimulating educational environment" that encourages undergraduate and graduate students to become involved in research and engages them in advanced learning experiences (Sams, 2010, p. 2). Engaging students in multiple cultures and environments helps them *see* the purpose (Townsend & Briers, 1990) of learning, which typically reinforces knowledge in future endeavors (Barrick, 1989; Buriak, McNurlen, & Harper, 1996). Furthermore, Research Priority 4 of the *American Association of Agricultural Education's National Research Agenda* called for the implementation of learning environments that emotionally and actively engage students to have "high levels of achievement, life and career readiness, and professional success" (Doerfert, 2011, p. 9). However, more research is needed to develop learning environments where high impact outcomes are the norm, rather than the exception.

How it works//Program Phases –Student participation in high impact experiences and experiential learning activities is essential to the learning process and deepens students' understanding and sensitivity to the outside world (Dewey, 1933; Kolb, 1984). Therefore, meaningful learning experiences and environments that engage students and promote life-long learning and citizenry should be intricate pieces in the learning process (Kolb, 1984). By participating in a semester-long course that included an eight-day field experience across the Midwest, students had the opportunity to learn through experiential learning and form opinions about culture, history, agriculture, people, global society, diversity, American resilience, and youth development as well as gain new perspectives and knowledge about old topics (Kolb, 1984). "…Educational outcomes are enriched, deepened, and expanded when student learning is more engaged, active, and relevant" (Bringle & Hatcher, 1999, p. 83) as was this field experience.

The field experience to National FFA Convention included three phrases:

Phase 1, Pre-experience: Students were required to complete a one-page summary of why they wanted to participate, what they hoped to gain from the experience, and how it could help them reach both short and long term career goals. Each student was required to have a minimum 2.5 GPR, attend before and after class meetings, enroll in AGCJ 380-501 for (2) credit hours, and pay all associated costs.

Phase 2, Field experience: Thirteen undergraduate students, one graduate student, two teaching assistants, one Fulbright Scholar from [location], and one professor participated in the field experience from October 17-22, 2011. On the trip, the group stopped at several locations for experiential activities:

- Joplin, Missouri, to experience the devastation caused by the May 2011 tornado;
- Amish and Mennonite communities in Central Missouri to interact with the culture and attend a produce auction;
- John Deere World Headquarters and Seeder Division in Moline, Illinois;
- National FFA Convention to help facilitate the Agricultural Communications, Food Science, or Agricultural Mechanics Career Development Events (CDEs);
- Gateway Arch in St. Louis, Missouri, to recognize American history and culture and interact with the builders, who attended the annual reunion;
- Warm Springs Ranch, the Budweiser Clydesdales Breeding facility; and

- The Oklahoma City Memorial to observe American Resilience.

Phase 3, Post-experience: Students completed a two-page reflection paper, an online questionnaire about the trip, and final projects by major. Agricultural leadership students wrote a two-year marketing plan to reestablish the Collegiate FFA Chapter at [State] University, agricultural communication students wrote a three-page feature story and designed a layout about a tour of their choice, and agricultural education students designed a Unit Plan. Last, students presented the final projects to faculty and staff at the conclusion of the semester.

Results to Date/Implications – Quantitative and qualitative data, which included surveys, reflection papers, final projects, and presentations, were collected throughout the experience. Undergraduate students ($N = 14$) completed the survey. Participants were asked how the field experience would help them in their collegiate experience, future career, and life. A majority of the participants claimed to have learned more about agriculture, history, diversity, youth development, culture and the global society than what they could have in a formal classroom setting as a result of the field experience. Further, students believed this field experience was the highest impact experience they have had while studying at [State] University.

The field experience resulted in success for the students because they were able to relate course work to their assignments and find gainful employment through the experience. The CFFA Chapter established a 20-member re-chartering committee and developed and distributed a survey of the college of agriculture students. An agricultural communications student accepted a summer internship with Case-New Holland, and an agricultural leadership student accepted a full-time position. Further, an agricultural communications student's layout and story from the experience was accepted for publication in *Drive Magazine.*

Many colleges and universities take students to help at National FFA Convention. They should capitalize on this opportunity to incorporate purposeful field experiences into their trip. Advanced planning would provide opportunities to expose students to agriculture, diversity, history, culture, global society, American resilience, and service.

Future plans/Advice to others – To improve future field experiences, comments and suggestions were collected from participants. During the route to and from National FFA Convention, students toured seven landmarks, communities, or facilities and five Land Grant Institutions. Future plans include continuing the field experience to the National FFA Convention in subsequent years. Additional semester-long courses with extended field experiences are being developed to include up to 60 students traveling by tour bus to experience production agriculture, American resilience, and culture in various regions of the United States. These courses will be available to non-agricultural education majors and provide high-impact learning opportunities for students in all [College of Agriculture] majors.

Costs/Resources needed –The total cost of the trip including van rentals, fuel, and lodging was $7000 or $500 per student, $450 of which students paid. This model is scalable depending on the number of participants. Food was not included in the budget price; however, several meals were provided for the group during the three days spent at National FFA Convention. All students agreed to have received their money's worth and many suggested they would have paid more.

References

Barrick, R. K (1989). Agriculture education: Building upon our roots. *Journal of Agricultural Education*. Issue and volume 24-29.

Bringle, R. G., & Hatcher, J. A. (1999). Reflection in service learning: Making meaning of experience. *Educational Horizons, 77*(4), 179-185. Retrieved from http://vnweb.hwwilsonweb.com/hww/results/getResults.jhtml?_DARGS=/hww/results/results_common.jhtml.35

Buriak, P., McNurlen, B., & Harper, J. G. (1996). Toward a scientific basis for the craft of teaching. *Journal of Agricultural Education, 37*(4). 25-37.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process.* Dallas, TX: D. C. Heath and Company.

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Eductaion's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall, Inc.

Sams, A. (2010). *[College]: 2010-2015 Strategic Plan.* Retrieved from [State] University, [College] website: [URL]

Townsend, J. & Briers, G. E. (1990, May) Reshaping experiential education: What experiences are best? *The Agricultural Education Magazine, 66.* 9-11.

Field Trips in Preservice Teacher Education: Improving Experiences in Technical Agriculture

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Field Trips in Preservice Teacher Education: Improving Experiences in Technical Agriculture

Introduction/Need for Innovation

Preservice teachers' educational experiences hold great weight in the teaching quality later exhibited (Knobloch & Whittington, 2002; McGhee & Cheek, 1990). In an effort to best prepare preservice teachers for careers in teaching, the majority of agricultural education teacher preparation programs are composed of four dimensions: general education, professional education, field-centered experiences, and technical agriculture content (Roberts & Kitchel, 2010). However, an increasingly distant relationship between students and the agriculture industry has led to a teaching workforce that is unfamiliar with aspects of technical agriculture (Houck & Kitchel, 2010; National Research Council, 2009). Teacher preparation students have held high value in technical agriculture experiences (Lawver & Torres, 2011; McGhee & Cheek, 1990), and have reported that experience in technical agriculture helped them feel more efficacious when teaching (Knobloch & Whittington, 2002). A responsibility of teacher preparation programs is to provide preservice teachers with experiences in technical agriculture (AAAE, 2001). Field trips to local agricultural businesses offer a method of incorporating technical agriculture experiences into preservice teacher education programs, thereby enhancing students' knowledge of technical agriculture before they enter the teaching profession.

How it Works

Two local agribusinesses were contacted and agreed to host [University]'s preservice agriculture teachers. Each agribusiness was provided a set of learning objectives, and they then developed an educational visit based upon the objectives. At each agribusiness, a representative discussed industry best practices, current and future trends in their industry, and how their business decisions impacted profits. In addition to the aforementioned discussions, the preservice teachers were given the opportunity to observe various industry practices such as grafting trees and cheese making. The field trips were conducted in one day with the following schedule: agribusiness one – 8:00am to 12:00pm, lunch – 12:00pm to 1:00pm, agribusiness two – 1:00pm to 5:00pm.

To maximize the field trip as a learning opportunity, Myers and Jones's (2003) field trip planning model was utilized. The model consists of three parts: (a) pre-trip, (b) trip, and (c) post-trip. Before the field trips, the preservice teachers were provided a field trip guide that contained questions related to the learning objectives, given instructions related to logistics, and informed of the experiences to anticipate. The preservice teachers were also informed that during the field trips they were expected to actively participate by asking questions related to school-based agricultural education and agriculture industry practices. During the field trips, the educators took on a role similar to that of a secondary agriculture teacher with a group of students on a field trip in order to model this behavior for preservice teachers. The educators asked the agribusiness

representatives clarifying questions and expanded on how the technical agriculture concepts and experiences could be utilized in a secondary classroom. After the field trips, the agricultural educators and the preservice teachers reflected upon their field trip experiences. Preservice teachers were encouraged to share technical agriculture misconceptions discovered in light of their new experiences, knowledge that was gained in technical agriculture and pedagogy, and how they planned to utilize their new knowledge in a secondary classroom.

Results to Date/Implications

Following the two agribusiness field trips, students completed a brief survey designed to gather their perceptions regarding the trips. Students found both trips to be of educational value, with averages of 3.71 and 3.91 on a five-point scale. Specifically, students felt that the field trip to the tree farm was most valuable in providing networking opportunities to be used in the future. They felt that the trip to the creamery was most helpful in providing content knowledge and developing their understanding of agribusiness. Open responses from the students expressed that they learned about how the agribusinesses have evolved to adapt to changing economic trends, and appreciated learning about the technical processes involved in each industry. Students also mentioned that incorporating a hands-on application into each field trip would be beneficial; many reported that they would have liked to propagate trees and participate in making cheese.

Student responses also supported the need for field trips in technical agriculture. One student requested to see the cows being milked at the creamery, implying a lack of understanding of the milking schedule adhered to by dairy farms. Conversations at the farm indicated that some students did not previously understand the relationship between calf production and milk production. These informal findings imply that students not only lacked technical knowledge before the field trip, but utilized the field trip as a learning experience to gain a more holistic understanding of the industry's practices.

Future Plans/Advice to Others

Based on feedback provided by the preservice teachers during the post-trip reflection and the field trip survey, the authors plan to continue to use agribusiness field trips as a means of incorporating technical agricultural knowledge and experience in the preservice teacher education program. It is recommended that the field trips occur early in the students' program, as student teaching concerns may hinder the learning occurring at field trips held later in the program. The teacher educator must appropriately prepare students for the field trips through preparatory activities, as well as encourage reflection with post-trip activities. Additionally, the teacher educator must have adequate knowledge of local agricultural industries, and be willing to network in order to build relationships with agribusinesses. Collaboration with agribusinesses to set up field trips should include a focus on student learning objectives in order to ensure the field trips are educationally beneficial. Teacher educators should secure transportation for all students throughout the field trips, and make arrangements for meals at appropriate times.

Costs/Resources Needed

To implement the field trips, adequate time is needed to develop learning objectives, field trip learner guides, coordinate class logistics, and to plan learning experiences with the agribusinesses. Field trip costs will vary depending on location of the teacher education program and the agribusiness. The direct cost to the [University] for the two agribusiness visits were 12 and 15 passenger rental vans at a rate of $131 per van, and approximately $45 of fuel per van.

References

American Association for Agr. Education. 2001. National standards for teacher education in agriculture. Retrieved from http://www.aaaeonline.org/files/ncatestds.pdf

Houck, A., & Kitchel, T. (2010). Assessing preservice agriculture teachers' content preparation and content knowledge. *Journal of Assessment and Accountability in Educator Preparation, 1*(1), 29-36.

Knobloch, N. A., & Whittington, M. S. (2002). Novice teachers' perceptions of support, teacher preparation quality, and student teaching experience related to teacher efficacy. *Journal of Vocational Education Research, 27*(3), 331-341. doi: 10.5328/JVER27.3.331

Lawver, R. G., & Torres, R. M. (2011). Determinants of preservice students' choice to teach secondary agricultural education. *Journal of Agricultural Education, 52*(1), 61-71. doi: 10.5032/jae.2011.01061

McGhee, M. B., & Cheek, J. G. (1990). Assessment of the preparation and career patterns of agricultural education graduates, 1975-1985. *Journal of Agricultural Education, 31*(2), 17-22. doi: 10.5032/jae.1990.02017

Myers, B., & Jones, L. (2004). *Effective use of field trips in educational programming: A three stage approach* (EDIS No. AEC373). Retrieved from http://edis.ifas.ufl.edu/wc054

National Research Council. (2009). *Transforming agricultural education for a changing world*. Washington, DC: National Academies Press.

Roberts, T. G., & Kitchel, T. (2010). Designing professional knowledge curriculum and instruction. In R. M. Torres, T. Kitchel, & A. L. Ball (Eds.), *Preparing and advancing teachers in agricultural education* (pp. 100-111). Columbus, OH: Curriculum Materials Service.

Green welding…utilizing the VRTEX 360 to reduce our carbon footprint

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Green welding…utilizing the VRTEX 360 to reduce our carbon footprint

Introduction

"Thanks to a global boom in industrial manufacturing, skilled welders are in greater demand than ever" (Brat, 2006, p.1). Since the demand for skilled welders has increased the need for more advanced training facilities and equipment is a necessity. With the increased amount of welder training raises a problem. This problem is the amount of waste that is accrued throughout the training process. There are multiple forms of waste that include metal, electrodes, gases, and electricity as well as the release of toxins during the welding process. In an effort to keep our environment healthy we must find a way to combat this carbon based waste.

The solution to this problem of welder training is to initiate the use of a green welder, the VRTEX 360™. The VRTEX™ 360 is a Virtual Reality Arc Welder produced by Lincoln Electric. This machine puts the operator in a virtual reality welding simulation that can be used to train the welder for Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), and Flux Core Arc Welding (FCAW). With a virtual reality welding simulator the carbon foot print left by traditional welding processes will be drastically reduced.

How it works

The VRTEX 360™ welding simulator is a computer based training apparatus used to train beginning welders before they would operate an actual welder. By putting the operator into a simulated environment to practice their welding technique before using an actual welder will reduce the production of waste of traditional training techniques. One program utilized by the VRTEX 360™ called the weldometer, tracks the material usage and verifies the cost and savings of consumable materials that the student would have utilized while welding. The consumable materials that are associated with the welding process include metal used, gases consumed, and electrodes utilized.

This program uses five welding coupons in the shape of Flat, Tee, Groove, 2" pipe, and 6" pipe. The use of these five welding coupons alone will cut down on the waste metal material that would have been utilized in the training of a skilled welder, thus reducing the carbon foot print left behind from the traditional welding training process. The coupons can be utilized in four different positions, which are flat, horizontal, vertical, and overhead. The program utilizes a traditional welding helmet that has been retrofitted with virtual reality goggles and ear buds. This allows the welder to see and hear everything that is happening just like if they were welding. The program also utilizes a realistic puddle simulation to help tie in the entire virtual reality simulation together.

The VRTEX 360™ utilizes a program called Weld Tracker. This program allows for instant feedback to the welder, which increases the learning curve of the welder. Within this program the welder can see their performance on specific indicators that affect their weld. Some of the indicators that can be analyzed are arc length, travel speed, and travel angle. With the instantaneous feedback from the program the welder can

quickly utilize this information and fix any problems they have, thus reducing the amount of wasted metal, gas, and electrodes being used by the welder. The other aspect of this program is the ability to track a welder performance from start to finish during the training program. The ability to track performance of the different welding indicators from one weld to the next will show areas that need improving.

The utilization of a virtual reality welding simulator also creates a safer environment for the welder to practice and hone their skills. Some safety concerns for welders include the exposure to welding fumes created by the welding process. There are different pollutants in welding fumes, but one that can cause death after prolong exposure is carbon monoxide. The carbon monoxide pollutant can be "found in fumes of SMAW, GMAW, and FCAW" (Balchin, 1993, pp.160-161) welding processes. This is the reason welding facilities utilize ventilation systems, to reduce exposure of welding fumes to the welder. With the virtual reality welding simulator there is no risk of exposure to these harmful fumes that are created, and also reduces the amount of carbon released into the atmosphere from welding training.

Results to Date/Implications

[STATE] University offers one agricultural mechanics course that covers construction, electricity, small engines, and welding skills training; thus allotting roughly four week for each skill area. The students enrolled in the spring 2011 course utilized the VRTEX 360 prior to the welding section of the course. The students had positive feedback regarding several variables associated with the machine. The feedback from the students led the department to recently purchase a VRTEX 360 to assist in the training of pre-service agricultural education teachers and reduce the department's expenditures on welding consumables.

Future Plans

A research project has been designed to be implemented in the Fall 2011 course measuring the consumables utilized by a control group that does not use the VRTEX 360 for training purposes compared to a test group that will utilize the VRTEX 360 as a training aid. Data collected from the weldometer will also be reported.

Costs/Resources Needed

The faculty in Agricultural Education department applied for and received funding from the University's student technology fee grant. The university was able to purchase the unit for $45,489.00. A one-year software upgrade for $7,440 is optional.

References

Balchin, N. C., & Castner, H. R. (1993). *Health and safety in welding and allied processes*. New York: McGraw-Hill.

Brat, I. (2006). *Where have all the welders gone, as manufacturing and repair boom.* The Wall Street Journal Online. Retrieved from: http://visiblewelding.com/SourceItems/Wall.Street.Journal.Where%20Have%20All%20the%20Welders%20Gone.pdf

Innovative Idea Poster

Highlighting the Importance of Community Activities in Early Field Experience for Pre-service Teachers

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Highlighting the Importance of Community Activities in Early Field Experience for Pre-service Teachers

Introduction/Need for Innovation

Early field experience (EFE) is an essential component of successful pre-service teacher programs in agricultural education departments (McLean & Camp, 2000; Myers & Dyer, 2004; Retallick & Miller, 2007). EFE opportunities have proven valuable for pre-service teachers during the teacher education program (Myers & Dyer, 2004). McLean & Camp (2000) reported that building relationships within the community is addressed in agricultural teacher education programs to build a successful school based agricultural education (SBAE) program. Dobbins and Camp (2003) found that several students reported programs addressing community relation topics during their EFE assignments. This poster displays opportunities to incorporate community relations during EFE in all areas included in the Total Agricultural Education program: FFA, SAE, and classroom instruction (Phipps et al., 2008). Incorporating these opportunities into EFE should help pre-service teachers to be more comfortable and better prepared to participate in community events and partnerships during their internship and first year of teaching.

How It Works

EFE requires pre-service teachers to investigate various aspects of agricultural education with a cooperating teacher in a selected school. Following the observation, pre-service teachers are asked to reflect through assigned activities. In order to emphasize the need for agricultural educators to be involved within the community, pre-service teachers are required to participate in an activity planned by the cooperating program that builds relationships between the agricultural educator and individuals outside of the classroom who support the SBAE program. This task can be accomplished in several ways during the EFE.

During a pre-service teacher's EFE, activities with the cooperating schools FFA chapter can assist in community development projects and prepare pre-service teachers for their impending teaching experiences. Pre-service teachers have been involved with training CDE teams, working closely with members of the community to gain knowledge and tools to help the team prepare adequately. Interaction with FFA Alumni chapter members also allowed pre-service teachers to participate in their fundraising events. Reflection included ways in which the pre-service teachers would be able to benefit alumni members and discussion about what goes into planning and preparing for CDEs at the sub-district, district, and state levels.

Students with SAE programs often rely on members of the community, particularly with placement projects. Pre-service teachers assisted students in planning SAE programs, helping them to find resources in the community and visited students at their worksite. Interaction with employers and parents allowed the pre-service teachers the opportunity to experience what goes into conducting an SAE visit. Pre-service teachers considered types of businesses and individuals in the community that may be

interested in assisting with SAEs and discussed the ways in which SAE programs should be tailored to meet students' individual needs.

Finally, members of the community also support SBAE classroom instruction. Pre-service teachers have observed the process of finding guest speakers to invite to the classroom, the preparation which occurs prior to the presentation, and have met with guest speakers on the date of the presentation. Pre-service teachers were also in some cases able to attend field trips, learning about the planning process, how to align the experience with classroom instruction, and how to manage the field trip effectively. Pre-service teachers can use these opportunities to discover ways in which they may provide students with information in areas outside of the educator's personal expertise. Reflection activities would include information learned about the cooperating teacher's management style and the process of integrating guest speakers and field trips with the curriculum.

Implications/Results to Date

Pre-service teachers involved in a community-based activity during an EFE have reported fewer concerns regarding the incorporation of all aspects of school based agriculture education during their internship and first year teaching. The time spent during an EFE allows a pre-service teacher to be better prepared upon entering the classroom. While not every pre-service teacher was part of a community-based activity that relates to each component of the total Agricultural Education Model, each experience allows a pre-service teacher to become familiar with the process of involving community members in their program. Within a pre-service teacher's reflection assignments, they are asked to reflect on how the experience will assist them in furthering their understanding of SBAE, and how they will use the gained experience in the future. Most students apply each experience to more than one component of the total Agricultural Education Model; showing their thought process of how each experience can benefit their overall understanding.

Advice to Others/Future Plans

It is recommended that each semester students be asked to submit reflective journals and assignments, which correspond with the goals for the teacher education program and the individual student's needs. Each assignment should then be evaluated to determine if the cooperating school meets the previously established goals. Additionally, it is recommended that teacher education programs continue to enhance the EFE to meet the needs of new pre-service and in-service agriculture teachers. Each pre-service teacher should be given opportunities throughout the teacher education program to make application of their experiences during the EFE. This will allow them to practice their skills and begin to feel more comfortable making decisions and interacting with others when working in an agriculture education program.

Resources Needed

In order to provide a quality experience for all pre-service teachers, the cooperating schools that are chosen to host a pre-service teacher should have strong community involvement in each of the three components of the total Agricultural

Education Model. This should include community members, business and industry representatives, local government officials, and in some cases the local extension office. These relationships can serve as a vital lifeline for any school based agriculture education program.

References

Dobbins, T. R., & Camp, W. G. (2003). Clinical experiences for agricultural teacher education programs in North Carolina, South Carolina, and Virginia. *Journal of Agricultural Education, 44*(4), 11-21. doi: 10.5032/jae.2003.04011

McLean, R. C., & Camp, W. G. (2000). An examination of selected preservice agricultural teacher education programs in the United States. *Journal of Agricultural Education, 41*(2), 25-35. doi: 10.5032/jae.2000.02025

Myers, B. E., & Dyer, J. E. (2004). Agriculture teacher education programs: A synthesis of the literature. *Journal of Agricultural Education, 45*(3), 44-52. doi: 10.5032/jae.2004.03044

Phipps, L. J, Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). Clift Park, NY: Thomson Delmar.

Retallick, M. S., & Miller, G. (2007). Early field experience in agricultural education: A national descriptive study. *Journal of Agricultural Education, 48*(1), 127-138. doi: 10.5032/jae.2007.01127

Innovative Idea

Identifying Free Online Tools to Create Screencasts

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Indentifying Free Online Tools to Create Screencasts

Introduction/Need for Innovation

Classroom instruction must continue to evolve as technology progresses, so graduates will be properly equipped for the workplace (Morgan, 2010). Programs preparing agricultural communicators should be integrating computer technology into instruction (Burns, 1998), but due to the highly varied learning styles of agricultural communications undergraduate students, instructors must incorporate diverse teaching methods to meet the needs of these students (Cartmell, Majors, Ashlock, & Sitton, 2005). Employers said agricultural communications students need to be familiar with current graphics programs (Morgan, 2009), and in master's level education, emerging technology was identified as a main area of agricultural communications that should be studied (Simon et.al, 2004). The *American Association for Agricultural Education's 2011-2015 National Research Agenda* (Doerfert, 2011) recognized the need to continually address new challenges and opportunities presented by changing technologies. Agricultural communications' instructors should research and identify innovative resources to use in courses that integrate technology.

One resource that should be explored is using screencasts. A screencast, also known as a video screen capture, is a digital recording of computer screen output that often contains audio narration. A screencast is similar to a screenshot whereas a screenshot is a picture of a computer screen while a screencast is essentially a movie of the changes over time that a user sees on a computer screen, enhanced with audio narration.

Steps

The purpose of this study was to evaluate several programs used for creating screencasts of computer content. Using an online search, relevant screencast creation programs were identified. These programs were then further researched to identify features and read user reviews. Based on the information presented in user reviews and highlighted differences between the programs, a list of criteria was compiled highlighting seven aspects of the programs. The criteria were price of the program, compatible operating system, capability for audio recording, time constraints for video recording, available file types for exporting, location to retrieve or purchase the program, and potential drawbacks. Because of the low-budget nature of online instruction, six free programs were identified based on the established criteria.

Results to Date

The following free resources are recommended to assist instructors in their efforts to produce screencasts.

- **AviScreen** (http://aviscreen-classic.en.softonic.com/) is a free program for capturing screen activity through downloaded software. This program is only compatible with Windows operating systems and converts videos to an AVI or Bitmap file. Users do not have the ability to record audio with their screencast, but can record video of unlimited length. One frequent user complaint was that because the software occupied so much RAM, using the program will slow down computer speed and efficiency.

- **Jing** (http://www.techsmith.com/jing/) is a free program that will operate on Windows or Mac operating systems. Users can record up to 5 minutes of video content and the program has audio recording capabilities. Users can draw or highlight objects as well as write messages that the video will then record. Videos can be exported to a Flash (SWF) file or saved in a MPEG-4 format. In addition, videos can be hosted for free by Jing, and the URL can be shared for viewing. Any videos created with this free software will support Jing branding in the form of a watermark on top of their video recording. A paid version of the software is also available. For $14.95/year, users can remove Jing branding from their videos, record from a webcam and share content instantly on YouTube.
- **ScreenCastle** (http://screencastle.com/) is a free screencast creation program that can be used on Windows, Mac, or Linux operating systems. The software can record audio to accompany a screencast and has no restraints on the length of the recording. Recorded videos can be uploaded to the ScreenCastle host site, and users are provided with the link or HTML code to paste into their websites.
- **Screencast-O-Matic** (http://screecast-o-matic.com/) has a free version of their program that will operate on both Windows and Mac operating systems. Users can record audio and screencasts for up to 15 minutes in length, then can export the video into MP4, AVI or FLV files, upload the video to YouTube, or save the content to the Screencast-O-Matic site. The software is Java-based, and the video can be automatically uploaded to the host site. The free version of the software places a Screencast-O-Matic watermark on videos created with the software, but a "Pro" version is available for a one-time fee of $9, which will remove the watermark from videos created with the software.
- **Screenr** (http://www.screenr.com/) is a free screencast creation program that will operate on Windows or Mac operating systems. The program will create up to 5 minutes of video and audio content that can be linked to using a custom shortened weblink. Users typically share their creations via their own websites, YouTube or Twitter. Each user creates a screenr account where videos and links to videos are stored.
- **Wink** (http://www.debugmode.com/wink/) is a program that allows users to create screencasts with audio and unlimited length using Windows or Linux operating systems. Videos created in the program can be exported to Flash, PDF, HTML, and EXE files. Users can add text captions or annotations to their screencasts using this free program. However, there is no ability to zoom or pan to emphasize aspects of the screencast using this program.

Future Plans/Advice to Others

This information can be used to select a free program to create screencasts for use in computer-based courses that require some sort of technical training. As technology is constantly improving, this list of programs should be revisited as new screencast creation programs are created or existing ones are improved.

Costs/Resources Needed

While the programs reviewed here can all be utilized for free, a number of programs can be purchased to do the same screencast creation. In total, 26 programs were found that

could create some sort of a screencast video. Eleven of these programs were provided at no cost to the user, while the other 15 were paid products, ranging from $9 to more than $700. Most paid programs required a one-time fee, while others required an annual fee for usage.

References

Burns, T.A. (1998). *Use of the Internet by Agricultural Communications Professionals.* Unpublished master's thesis, Texas Tech University, Lubbock.

Cartmell II, D.D., Majors, M., Ashlock, M.A., Sitton, S.P. (2005, February). Assessing Agricultural Communications Students' Learning Styles. *Proceedings of the Southern Association of Agricultural Scientists, Agricultural Communications Section.* Little Rock, AR.

Doerfert, D.L. (Ed.) (2011). National research agenda: *American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Morgan, A.C. (2009, February). Competencies Needed by Agricultural Communications Undergraduates: An Industry Perspective. *Proceedings of the Southern Association of Agricultural Scientists, Agricultural Communications Section*. Atlanta, GA.

Morgan, A.C. (2010, February). Competencies Needed by Agricultural Communications Undergraduates: A Focus Group Study. *Proceedings of the Southern Association of Agricultural Scientists, Agricultural Communications Section*, Orlando, FL.

PCMag.com (2011) Definition of screencast. Retrieved from http://www.pcmag.com/encyclopedia_term/0,2542,t=screencast&i=60127,00.asp#fbid=llq2R_Gpv_G

Simon, L.A., Haygood, J.D., Akers, C.L., Doerfert, D.L., Davis, C.S., & Bullock, S.J.R. (2004, February). Master's Level Agricultural Communications Curriculum: A National Delphi Study. *Proceedings of the Southern Association of Agricultural Scientists, Agricultural Communications Section.* Tulsa, OK.

Udell, J. (2005, November 16). What is screencasting. *O'Reilly Digital Media*. Retrieved from http://digitalmedia.oreilly.com/pub/a/oreilly/digitalmedia/2005/11/16/what-is-screencasting.html?page=1

Innovative Poster

iLearn: Using Social Media to Restructure a Teaching Methods Course

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iLearn: Using Social Media to Restructure a Teaching Methods Course

Introduction/need for innovation or idea

The National Research Council (2009) called for a transformation of agricultural education so that tomorrow's college graduates in the agricultural sciences will be ready to enter a complex, global workforce as life-long learners. The NRC called for improving "how learning and teaching occur" in college classrooms (p. 35). They specifically suggested that lecture should be used less and other active strategies should be considered. In discussing active learning strategies that help students think more strategically, Svinicki and McKeachie (2011) proposed two activities that will contribute to student learning: (a) the opportunity to have the instructor model thinking and practices, and (b) the opportunity to receive peer and instructor feedback on performance.

After teaching a teaching methods course for three years, the lead instructor recognized that some preservice teachers were struggling with taking the abstract concepts delivered in class lectures and then applying those concepts in developing and delivering their own lessons (microteaching). After analyzing the situation and consulting Bloom, Engelhart, Furst, Hill, and Krathwohl's (1956) Taxonomy of Educational Objectives , the instructor concluded that he had been using class time to deliver new information (knowledge and comprehension level activities) and then sending the preservice teachers home to use that information in developing their own lessons (application level activity). As previously structured, students had ready-access to the instructor during the lower-level activities (class time), but were forced to work independently for the higher-level activities.

How it works/methodology/program phases/steps

Previously, this teaching methods course was taught like most college courses with the instructor delivering a lecture about half the class session and then demonstrating a respective teaching method. The course was restructured by: (a) moving lecture material outside of scheduled class time, and (b) then using the extra class time to apply concepts taught in the lectures. The following steps were taken:

1. Nine lecture topics were identified from the course syllabus. Each topic represented a different teaching method (planning the daily session, an overview of teaching methods, establishing interest, lecture, questioning, discussion, cooperative learning, inquiry, and individualized application).
2. The PowerPoint presentations that had been previously used in each class session were imported in to Apple's Keynote software and then narrated by the instructor. The narrated Keynote file was then converted to a video format (.mov) and uploaded to YouTube.
3. Each YouTube video then became the centerpiece of a short online module that included an introduction (essential questions), the video lecture, and then a 5 to 6

question multiple-choice quiz. Each module was designed to take 10 to 15 minutes to complete.
4. Each module was assigned to students with a deadline to complete the module before the class session that focused on the respective teaching method.
5. During the class session that would have previously included the lecture, the instructor developed a series of activities that included: (a) the instructor and/or TA(s) modeling the respective teaching method using a lesson appropriate for a high school agricultural education class, (b) student opportunities to model the teaching method in a low-risk manner, and/or (c) time for students to plan for an upcoming microteaching lab.

Results to date/implications

The new approach was implemented in the Fall 2011 semester. Formal evaluation of the change will occur at the end of the semester. Feedback from students thus far has been positive. The student reported that the amount of time required to complete each module was appropriate. The average scores on the module quizzes ranged from 23/25 to 25/25. When comparing this group of students to previous groups, the instructor observed that the current group is better prepared for class and comes with higher level questions that seem to indicate that information at the knowledge and comprehension levels was met with the video lectures. Thus, early analysis indicates that this new approach seems to be working as hypothesized.

Future plans/advice to others

Future plans.

At the conclusion of the semester a focus group will be conducted with the class to explore their perceptions about the experience. Student performance in the form of scores on individual microteaching assignments will also be compared with previous students from previous semesters.

If the changes prove efficacious, the instructor may consider converting more of the *live* lectures into video lectures, thus allowing form more application level activities during scheduled class time. Additionally, the instructor is considering the possibility of having students create some of the videos.

Advice to others.

Based on what has been learned thus far, the following advice is offered:

- Start small with a few video lectures and add more over time.
- Be sure to watch the videos all the way through to ensure the audio and video are high quality.

Costs/resources needed

To implement this project, only a few resources were needed and the costs were minimal. The following resources were used:

- Apple Keynote software ($19.99). Another PC-based software lime Camtasia could be used to convert PowerPoint presentations to video ($299). Be sure to check and see what institutional licenses your university might have.
- Microphone to record narrations ($25 to $100).
- Course management system to manage online quizzes (free).
- YouTube account (free)

References

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of education objectives book 1: Cognitive domain.* New York, NY: David McKay Company, Inc.

National Research Council. (2009). *Transforming agricultural education for a changing world*. Washington, DC: National Academies Press.

Svinicki, M., & McKeachie, W. J. (2011). *McKeachie's teaching tips* (13th ed.). Belmont, CA: Wadsworth.

Innovative Idea

Integrating science, technology, engineering, and mathematics (STEM) competencies into the Texas agricultural mechanics curriculum: A professional development model for school-based agricultural educators

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Integrating science, technology, engineering, and mathematics (STEM) competencies into the [STATE] agricultural mechanics curriculum: A professional development model for [STATE] agricultural science teachers

Introduction

The U.S. Department of Labor (2007) noted that "the long-term key to continued U.S. competitiveness, in an increasingly global economic environment, is the adequacy of supply and the quality of the workforce in the [science, technology, engineering, and mathematics (STEM)] fields" (p. 2). The STEM career fields, and those who work in them, are critical engines of innovation and growth according to one recent estimate—whereas, only about five percent of the U.S. workforce is employed in STEM fields—the STEM workforce accounts for more than fifty percent of the nation's sustained economic growth (Babco, 2004). According to the *National Research Agenda, Research Priority 3*, to better prepare a future workforce in the critical STEM career fields, i.e. agriculture, agriculture teachers must educate students to "be well prepared for discovery science, teaching and learning, [STEM] integration, and application of innovation for public, private, and academic settings" (Doerfert, 2011, 19). In a review of literature, several studies have found that secondary students have academic deficiencies in the area of mathematics (Parr, Edwards, & Leising, 2006; Shinn et al., 2005). Studies have also suggested a way of improving a student's academic achievement in mathematics is to engage students in applied agricultural education instruction (Myers & Dyer, 2004; Parr et al., 2006). However, to better prepare these students, teacher educators have to better prepare future teachers. In numerous national studies, agriculture teachers, at all career levels, have professional development needs in teaching students to apply basic mathematics skills to agricultural problems (Jansen, Enochs, & Thompson, 2006; Layfield & Dobbins, 2002; Miller & Gliem, 1996; 1994). Therefore, the focus of this study was to develop, implement, and evaluate a mathematics based curriculum integration workshop for [STATE] agricultural science teachers.

Program Phases

In the fall of 2010, a one-day (6 hour) mathematics integration workshop was held at [UNIVERSITY] for [STATE] school-based agricultural educators (n = 14). This workshop was designed to provide school-based agricultural educators with mathematical instruction, ideas, and concepts that relate to: instruction of curriculum regarding the new course entitled *Mathematical Applications in Agriculture*, *Food, and Natural Resources,* the Agricultural Mechanics CDE, and the new [STATE] educational benchmarks. Teachers learned how to apply mathematical concepts to real-world situations found in several areas of agriculture. Emphasis was given on applying mathematic concepts in the classroom as well as in a laboratory setting. In addition, a swap of shop ideas was facilitated to share concepts that work for the education of students regarding the Agricultural Mechanics CDE.

Results to Date/Implications

To evaluate the workshop, a paper, booklet style questionnaire was administered concluding the workshop. The participants were asked to respond to a 22 question instrument that contained two sections. Section I was comprised of 15 attitudinal type questions concerning various aspects of the workshop that utilized a five-point summated rating scale. Section II of the instrument sought to identify program characteristics. The majority of the respondents indicated the workshop was well organized, was stimulating, and was not dull. Additionally the majority of the respondents indicated that some fundamental math problems were cleared up for them and mathematical questions and misconceptions were cleared up for them. Based upon the participation in the workshop and the subsequent evaluations, several implicative questions arose. How prepared are pre-service teachers to apply mathematical skills to agriculture related mathematical questions? Does teaching mathematics in agricultural education courses improve student competence? What are the best methods to teach mathematics in agricultural education to provide the greatest student achievement? These questions and others are grounds for future teacher engagement and research.

At many universities, applied coursework has been reduced—in some cases to meet the requirements of *highly qualified* under the *No Child Left Behind Act*—mandating additional applied agricultural education instruction coursework to address STEM integration during pre-service teacher education programs may not be realistic. Although pre-service teacher education programs arguably include coursework to prepare highly qualified teachers, various interpretations of the requirements of *highly qualified* exist. Nonetheless, it could be argued that recent federal and state changes in education imply the need to improve student's academic achievement in STEM. This workshop provided in-service teachers with an opportunity to learn how to implement STEM instruction to engage students in applied agricultural education instruction.

Future Plans

The researchers intend to offer similar workshops in the summer of 2012 and the fall of 2012, however, to enhance research efforts, a pre- and post-test will be administered to assess workshop participants mathematics knowledge. Additionally, a one day mathematics-based workshop for school-based agricultural education students will also be offered in the winter of 2013. In the future, the researchers intend to develop web based resources for teachers to use with their students for additional classroom instruction.

Costs/Resources Needed

The cost of the workshop was $25 for each teacher and included lunch, a curriculum binder, and all printing services. Resources needed for this workshop included a modern classroom, a class set of TI-84+ calculators (donated by Texas Instruments for the workshop), and the instructor developed curriculum. Delmar Learning donated a copy of the textbook *Mathematical Applications in Agriculture* (Mitchell, 2004) to each teacher as well.

References

Babco, E. (2004). *Skills for the innovation economy: What the 21st century workforce needs and how to provide it.* Washington, DC: Commission on Professionals in Science and Technology.

Doerfert, D.L. (Ed.) (2011). National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Jansen, D.J., Enochs, L.G., & Thompson, G.W. (2006). *Mathematics enhancement in horticulture curriculum: An exploratory examination of teacher concerns during initial implementations.* Paper presented at the 33rd American Association for Agricultural Education Research Conference, Charlotte, NC, 51-60.

Layfield, K.D., & Dobbins, T.R. (2002). Inservice needs of perceived competencies of South Carolina agricultural educators. Journal of Agricultural Education, 43(4), 46-55. doi: **10.5032/jae.2002.04046**

Miller, G.M., & Gliem, J.A. (1994). Agricultural education teacher's ability to solve agriculturally related mathematics problems. *Journal of Agricultural Education*, *35*(4), 25-30.doi: **10.5032/jae.1994.04025**

Miller, G.M., & Gliem, J.A. (1996). Preservice agricultural educator's ability to solve agriculturally related mathematics problems. *Journal of Agricultural Education*, *37*(1), 15-21. doi: **10.5032/jae.1996.01015**

Mitchell, N.H. (2004). Mathematical applications in agriculture. Clifton Park, NY: Delmar Learning.

Myers, B.E., & Dyer, J.E. (2004). Agriculture teacher education programs: A synthesis of the literature. *Journal of Agricultural Education*, *45*(3), 44-52. doi: 10.5032/jae.2004.03044

Parr, B.A., Edwards, M.C., & Leising, J.G. (2006). Effects of math-enhanced curriculum and instructional approach on the mathematical achievement of agricultural power and technology students: An experimental study. *Journal of Agricultural Education*, *47*(3), 81 – 93. doi: **10.5032/jae.2006.03081**

Shinn, G.C., Briers, G.E., Christiansen, J.E., Edwards, M.C., Harlin, J.F., Lawver, D.E., Lindner, J.R., Murphy, T.H., & Parr, B.A. (2003). Improving student achievement in mathematics: An important role for secondary agricultural education in the 21st century. Monograph, National Council for Agricultural Education. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.130.5829

U.S. Department of Labor (2007). The STEM workforce challenge: The role of the public workforce system in a national solution for a competitive science, technology, engineering, and mathematics (STEM) workforce. Retrieved from the U.S. Department of Labor website: http://www.doleta.gov/youth_services/pdf/STEM_Report_4%2007.pdf

Inter*Ag*tion and Curriculum Mapping for Agricultural Literacy

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Inter*Ag*tion and Curriculum Mapping for Agricultural Literacy

Introduction/Need for Innovation

The Agriculture in the Classroom (AITC) program was developed in response to the National Research Council's 1988 report *Understanding Agriculture: New Directions for Education* and to address the needs of state farmers and ranchers who perceived an ill-informed, agriculturally illiterate citizenry may undervalue agriculture and its social, economic, and sustainable importance. In the area of agricultural literacy, two important findings were noted: 1) "Most Americans know very little about agriculture, its social and economic significance in the United States, and particularly its link to human health and environmental quality;" and 2) "Few systematic educational efforts are made to teach or otherwise develop agricultural literacy in students of any age. Although children are taught something about agriculture, the material tends to be fragmented, frequently outdated, usually only farm oriented, and often negative or condescending in tone" (1988, p. 21). The Council recommended that "all students should receive some systematic instruction about agriculture" (p. 20). To meet this goal, AITC, a State University Extension priority program, provides instructional resources and teacher professional development to increase agricultural literacy among teachers and their K-12 students.

Between 1994 and 2001, numerous AITC resources were developed. The program trained approximately 700 in-service and pre-service teachers each year with three, eight-hour professional development workshops. The State Office of Education, citing the works of Marzano, Pickering, and Pollock (2001) on teacher pedagogical and classroom behavioral changes, adopted a policy that only professional development that engaged teachers for 14 or more hours would be recognized for promotion. At the same time, the mandates from the No Child Left Behind Act of 2001 and the requirements to meet Annual Yearly Progress required teachers to participate in compulsory trainings that made the idea of a Saturday workshop, like the AITC workshops, unappealing. To meet agricultural literacy goals and to address teacher professional development needs, AITC launched an online, asynchronous course (2002) using the University content management system (CMS). The website was password protected, linear, and cumbersome to navigate and manage. Searching inside the course was impossible. Despite the course design and maintenance challenges, a study of course completers (Rasmussen, 2008), found an increase in agricultural knowledge among their students, that the course resources met state standards, and that teachers had continued to use 63% of the course materials three years after taking the course. The model was deemed successful as teachers were effectively using online agricultural literacy resources to meet state standards and at the same time increasing students' agricultural literacy. However, the course was quickly becoming dated and cumbersome as more resources were added. In 2009, new database web technologies became available and were employed to improve the site interface and administration. Furthermore, anyone with an Internet connection could access the site.

How it Works/Methodology/Program Phases/Steps

AITC requested and received $35,000 (2010) to create an open, interactive e-resource site for learning (e-Learning), which integrated previously developed content, educational standards, online course best practices, a sophisticated search engine, and relevant Web 2.0 tools. Several of the largest school districts in the State require that teachers create curriculum maps (Jacobs, 2004) that document the content sources they will use to cover the curriculum, the essential questions that will be addressed, core skills to be developed and their plan for assessment. The completed curriculum maps then become a dynamic, formative instructional tool for teachers, students, parents and schools. To meet teacher curriculum mapping needs and the goals AITC, the Inter*Ag*tion e-Learning site adopted curriculum mapping as the theoretical design framework for the sites' Teacher Center and online course. The redesigned site has integrated a dynamic, interactive, searchable database of resources that teachers can easily access to build their curriculum maps, earn credit, teach educational standards and, at the same time, increase agricultural literacy among their students.

The site, launched in August of 2011, is searchable by grade level, subject or keyword and includes over 160 classroom-ready lesson plans that are linked to educational standards and more than 260 supportive resources (videos, kits, slide presentations, lab/demonstration activities, maps, posters, games, bulletin boards, etc.) available from the e-Store or from other websites. Users may create a free profile on the site that allows them to save their favorite resources in a personal library that is automatically updated whenever a resource is updated. All of the profile information is passed though the e-Store, allowing one-click ordering. Upon login, if a teacher is enrolled in the online course, a course navigation menu appears to facilitate course submissions. The "Student Center" provides students with a variety of ways to interact with agricultural content, including Inter*Ag*tion bar codes that are printed and posted, linking to interactive quizzes and games, a YouTube playlist with virtual tours, career information, ag-issue wikis and WebQuests.

Results and to date / implications

Congruent with the National Research Agenda (Priority 5) to develop highly "efficient and effective agricultural education programs" (Doerfert, 2011, p. 10), this innovative e-Learning site streamlined and integrated three independent sites, while at the same time enriching the user experience and simplifying site administration. Since the launch date, traffic to the site has increased by 10% when compared to the same time period the year before, and teachers that have completed the online course since August rated the site as "very easy to use." The site is flexible; any educational content and standards can be very easily added or modified.

Future Plans & Advice to Others

AITC plans are to 1) aggressively market the site and online course, 2) add more tutorial videos, 3) add high school agricultural science standards and content, and 4) investigate adding other state standards and resources to the site. The goals are to increase site traffic by 25% and enrollment in the online course by 50% in 2012. Others who are considering the development of an e-Learning site need to understand the complexity of this type of resource, including the hardware, software and personnel commitments that are required. Most importantly, content must be available to populate

the database. It would be more practical to submit resources to this site for inclusion and then direct teachers to this e-Learning site.

Costs/Resources Needed

The customized programming for the development of this e-Learning site was relatively inexpensive (as noted above) considering its comprehensive nature, but the decade of resource development ($170,000) to populate the site cannot be overlooked. The AITC program has secured ongoing funding for this project and is projecting future growth, especially as states widely adopt Common Core Standards.

References

Doerfert, D. L. (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Jacobs, H. H. (2004). *Getting Results with Curriculum Mapping*. Association for Supervision and Curriculum Development (ASCD), 1703 North Beauregard Street, Alexandria, VA.

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement* (1st ed.). Association for Supervision & Curriculum Development (ASCD), 1703 North Beauregard Street, Alexandria, VA.

National Research Council. (1988). *Understanding Agriculture: New Directions for Education.* National Academy Press, 2101 Constitution Avenue, N.W., Washington, DC.

Rasmussen, C. L. (2008). *A Causal-Comparative Model for the Examination of an Online Teacher Professional Development Program for an Elementary Agricultural Literacy Curriculum* (Doctoral dissertation) Utah State University, Logan, UT.

Innovative Idea

Leadership Institute: Building Leadership Capacity Through Emotional Intelligence

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Leadership Institute: Building Leadership Capacity Through Emotional Intelligence

Introduction/Background/Need

Given the changing dynamics of society and the pressures put on organizations to adapt, leadership effectiveness within those organizations has become a crucial element of success. Leaders must possess an eclectic blend of skills and abilities that go beyond standard intelligence and into the realm of emotional intelligence. Emotional intelligence (EI) is defined as "understanding oneself and others, relating to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands" (Bar-On, 2004, p.1). Competencies related to EI are not innate traits but rather learned abilities (Goleman, Boyatzis, & McKee, 2002) and each of those abilities has a unique and resounding effect on an individual's leadership capacity (Cherniss, 2000) and effectiveness (Mills, 2009). Because of how crucial these abilities are in today's workforce, organizations are implementing programs designed to increase emotional intelligence (Cherniss, 2000). Moreover, growing amounts of data are becoming available that support the presence of emotional intelligence as fundamental to an organization's bottom line (Terrell & Hughes, 2008; Cherniss, 1999).

The program being presented here is one designed to enhance individual emotional intelligence through in-depth engagement of the participants. This program is ideal for existing managers, supervisory staff, individuals aspiring for higher level positions, and any professional experiencing leadership challenges in their current employment. Participants of the program will better understand and be able to apply the dynamics of emotional intelligence, which will enable them as leaders to inspire commitment, motivate others, and build lasting relationships for the continued success of their organizations.

Program Design

Adopting the premise that enhancing emotional intelligence is a process as opposed to an outcome (Hess & Bacigalupo, 2010), the program was intentionally designed for participants to learn about their EI, explore strategies to enhance EI, apply strategies in the workplace, and process experiences. This program encompassed two months of 'course work' over an extended length of time, (i.e., 12 months, between pre and post assessments) which research has shown to be an appropriate amount of time for participants to practice and employ techniques provided in the sessions and observe sustainable changes (Goleman et al., 2002; Boyatzis, 2009).

At least one week prior to the initial session participants were asked to complete an online self report EI measure (Bar-On EQ~I, 2004). Session one was an in-person introductory interest approach and provided foundational content surrounding EI. This session was designed to be experiential by reaching participants on a personal level and challenge them to eliminate individual excuses and create goals for personal leadership development. Individual reports were given to the participants towards the end of the session and a general interpretation was given to whole group. This session was followed up with a one hour individual coaching session intended to answer questions regarding

personal assessment reports and help participants realize implications of their individual EI assessment results to their leadership now and in the future.

Sessions two and three were webinars consisting of lecture and discussion held approximately two weeks after the initial session and two weeks apart thereafter. Content for the first webinar session was comprised of methods and tips towards enhancing specific EI components that could be easily implemented in their daily routines. The second webinar session was spent with participants learning from one another discussing daily experiences and challenges and evaluating progress on individual goals.

A second in-person session, fourth session overall, was held at the end of two months after the initial session. This session was an interactive group discussion celebrating successes and recognizing future challenges as opportunities. A brief review of the EI framework lead into discussion around identifying strategies that have worked to improve EI as well as reaffirming their individual goals. Ten months following the fourth session participants were again asked to complete a self-report EI assessment. Reports from this assessment were distributed at the convenience of the participants.

At the onset of the program, participants were given resources to explore EI on their own outside the sessions. Furthermore, throughout the entire course of the program the facilitator was available for additional individual coaching or guidance. Because of the significant individual context of this program, participant numbers were limited to 25 or less to ensure individual and in-depth engagement.

Results/Implications

This program has been offered for two consecutive years with 36 participants completing the requirements. Through general conversation after the sessions, the program was received as incredibly motivational and an excellent way to spend professional development resources. An evaluation of the program in its first year yielded results showing an 8.3% increase on participants overall assessment scores. The pretest mean scores of the assessment ranged from 75 to 118 (μ =99.94, σ= 13.05), and posttest ranged from 93 to 121 (μ = 108.25, σ= 9.60). Increases were seen across all scales and subscales in the assessment. Based on the results of this program, individuals showed enhanced EI. These results and previous research (Mills, 2009; Terrell & Hughes, 2008; Goleman et al., 2002; Cherniss, 1999) show that EI can be improved through professional development, a valuable investment for the organization's bottom line.

Future Plans/ Advice

Further replications of this program would benefit from deeper course content in the area of interpersonal relations such as coaching. Additionally, adding a 360° assessment element would be beneficial during the individual coaching sessions and aid in the self reflection portions of the program. Management of the program works best as a team effort. The facilitator focuses on the content while one or two other individuals schedule and arrange assessments and meetings as well as document and organize data.

Costs/Resources Needed

This program was facilitated by an EI certified instructor and supported by graduate students and office staff. Income was derived from an individual participant fee of $100 and a Leadership Development Grant of $280 per person, totaling $380 per

person. Expenses per person included; facilitator fee $130, individual one hour coaching session $100, meals/ refreshments $40, EQ-I assessments $110, and printing $10. Total expenses equaled $390 per person and inclusive of all sessions. Depending on your individual situation, additional costs may exist. For this particular program, site fees were not incurred due to availability of classroom space at no charge. Indirect costs include a large time commitment and potential costs related to travel required by the facilitator and participants of this program.

References

Bar-On, R. (2004). *Emotional Quotient Inventory (EQ-i): Technical Manual.* Toronto: Multi Health Systems.

Boyatzis, R.E. (2009). Competencies as a Behavioral Approach to Emotional Intelligence. *Journal of Management Development*, *28*(9), 749-770.

Cherniss, C. (1999). *The Business Case for Emotional Intelligence.* Retrieved December 16th, 2010, from EI Consortium: www.eiconsortium.org

Cherniss, C. (2000). Social and Emotional Competence in the Workplace. In R. Bar-On, & J. Parker (Eds.), *The Handbook of Emotional Intelligence* (pp. 433-452). San Francisco: Jossey-Bass.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal Leadership Realizing the Power of Emotional Intelligence.* Boston: Harvard Business School Press.

Hess, J.D. & Bacigalupo, A.C. (2010). The Emotionally Intelligent Leader, the Dynamics of Knowledge-Based Organizations and the Role of Emotional Intelligence in Organizational Development. *On the Horizon*, *18*(3), 222-229.

Mills, L. B. (2009). A Meta-Analysis of the Relationship Between Emotional Intelligence and Effective Leadership. *Journal of Curriculm and Instruction*, *3*(2), 22-38.

Terrell, J. B., & Hughes, M. (2008). *A Coach's Guide to Emotional Intelligence.* San Francisco: Pfeiffer.

Innovative Idea

Learning APA Style: What's all the Buzz About?

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Learning APA Style: What's all the Buzz About?

Introduction

Graduate students studying agricultural education and other social sciences are challenged to apply APA style to papers for classes, research articles, and popular press publications. According to many faculty, new graduate students commonly demonstrate a noticeable deficiency in the use of APA style (Blind Author, personal communication, September 17, 2011). Proficiency in using APA style is critical to graduate students as a means of reporting the results of research clearly and concisely, as well as increasing the overall credibility of those reports in terms of submission to conferences, scholarly journals and other academic publications.

An informal inquiry of graduate students revealed that most students lack self-efficacy related to the application of APA style in their written works. Bandura (1997) posited that self-efficacy affects personal behavior and consequently can determine performance outcomes. Agricultural educators at [University] used competition-based learning methodology (Burguillo, 2010) as an underpinning to create a learning environment that fosters learning regardless of the score achieved during the competition. After considering several options, the educators conceived that motivational games could be used to improve students' knowledge and self-efficacy regarding APA style.

How it Works

Materials

The APA Style Quiz Bowl motivational game was developed to be used in classroom or other learning environments to help students learn and apply APA style. The game was modeled on guidelines for quiz bowls sponsored by various student leadership organizations and professional associations. All questions used in the game were generated from items in *Mastering APA Style: Instructor's Resource Guide* (2010) and *Mastering APA Style: Student's Workbook and Training Guide* (2010). Two Microsoft PowerPoint® files were developed to display the rules and questions to game participants. One file was composed of general rules and "Toss-up" questions. ("Quizbowl," n.d.) The other file was composed of "Bonus" items. Other materials needed to conduct the game include: A computer, LCD projector and screen to display the PowerPoint® file; a set of wireless game buzzers for participants; and, prizes for participants.

Process

To play the game, the room is arranged so that all participants can easily view the screen displaying the PowerPoint® visuals. Teams are composed of two to three participants, though variation is possible. Each team is provided a buzzer used to indicate when a team has arrived at an answer. After reviewing the rules, the facilitator begins the game by presenting the first toss-up question. When a team buzzes in, it must answer the question with in 20 seconds. If the team provides a correct response, they earn a point and are given the opportunity to answer a bonus question. The team continues to get additional bonus questions until it misses one. If the toss-up question is missed, it is re-opened to be answered by the teams. The first team to earn 10 points wins the round.

Results to Date

Students who participated in the game were asked to comment on their learning experience from The APA Style Quiz Bowl. Responses indicate that the use of the competitive game yielded positive results. A sample of student comments includes:

"As a doctoral student in my first semester, I was able to benefit from the APA quiz bowl. The opportunity to refresh myself about APA in a fun, competitive environment was beneficial as I developed confidence in my abilities and increased my knowledge of APA" (Blind Author, personal communication, November 8, 2011).

"The APA quiz bowl improved my understanding of APA style in a fun and enjoyable manner. After competing in the APA quiz bowl I had a better understanding of APA and feel much more comfortable with using APA" (Blind Author, personal communication, November 10, 2011).

"APA quiz bowl was a lot of fun! It was a great way to learn and refresh a topic that is normally mundane in an interesting and exciting way" (Blind Author, personal communication, November 10, 2011).

Future Plans

Two primary goals guide future plans: A) Development of additional competitive games using APA style material; and, B) the formation of a permanent graduate course on the use of APA style.

Ideas for additional competitive games include adaptations of popular television game shows such as *Jeopardy*, *Family Feud*, *Who Wants to be a Millionaire*, or *Are You Smarter Than a 5th Grader*. All game designs will include questions or situations related to rules and standards of APA style and competition requiring individual performances and teamwork. The possibility exists for faculty and student organizations from the department to challenge other institutions or departments to events featuring the APA games.

The graduate course on the use of APA style currently in conceptual development will focus on increasing student proficiency through collaborative learning. The course will be offered in seminar format with three sessions scheduled throughout the semester. Students will participate in an initial APA workshop for session one, engage in peer review experiences for session two and develop and present an APA workshop to graduate students from another department for session three.

Costs/Resources Needed

There was a need for one graduate student to develop a comprehensive bank of quiz questions and format the game using PowerPoint® and serve as game moderator as needed.

Resources	**Cost**

Prizes (Optional)	$20.00
Quiz Bowl Buzzers	$413.36
Total	**$433.36**

References

American Psychological Association. (2010). *Mastering APA style (6th Ed.): Instructor's resource guide.* Washington, DC: American Psychological Association.

American Psychological Association. (2010). *Mastering APA style (6th Ed.): Student's workbook and training guide.* Washington, DC: American Psychological Association.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman.

Burguillo, J. C. (2010). Using game theory and competition-based learning to stimulate student motivation and performance. *Computers and Education 55*, 566-575 doi:10.1016/jcompedu.2010.02.018

Quizbowl. (n.d.). Retrieved from http://quizbowl.stanford.edu/tournaments/rules.html

Innovative Poster Proposal

Learning Communities: Establishing a Cohort of Reflective Practice

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Learning Communities: Establishing a Cohort of Reflective Practice

Throughout the history of teacher preparation, preservice teacher education programs have adopted different models of instruction in order to prepare students for the teaching profession. Many teacher education programs have been criticized for being overly theoretical, having few connections to the practice of teaching and offering fragmented and incoherent courses (Darling-Hammond, 2005). Some universities have implemented an individualistic approach to teacher preparation where preservice teacher candidates experience a sense of isolation while taking prescribed classes on their own (Goodlad, 1990). A review of research found that the independent approach to teaching is contradictory to what we expect of teachers once they enter the social profession.

An alternative to the individualistic approach to teacher preparation is the learning community model, also known as a cohort of learners. "The cohort-model, which is defined as having four or more classes together in a given semester, is designed to create learning environments based on building communities of learners" (Dinsmore & Wegner, 2006, p. 59). A learning community shares more than a common location; it also shares a common purpose (DePorter, Reardon, & Singer-Nourie, 1999).

A cohort of learners can bond together to make their learning community a safe and secure place to discover knowledge and experience professional growth through reflection. Members who feel comfortable within a cohort are more apt to venture out from their comfort zone to explore unchartered territory, such as applying new teaching techniques during a microteaching. Students also learn how to reflect on their teaching skills. Preservice teacher candidates exercise self-reflection activities after conducting a microteaching, as well as receive feedback from their peers. Strange and Banning assert that "environments that involve participation in significant and meaningful roles fulfill two primary conditions for promoting learning growth and development: a sense of belonging and security and a mechanism for active engagement" (2001, p.159). The time spent learning and growing in learning communities can build lasting professional relationships and create a foundation of support once they enter into the profession.

How it Works

Cohorts are created when students take the same program of classes together over the course of a semester or longer. At a mid-western land-grant institution, the cohort is made up of preservice agricultural education teacher candidates in their junior year prior to student teaching. The cohort has been nicknamed the "Block", stemming from the block of classes taken together at the same time. A group of faculty and staff work year-long to plan and coordinate the "Block" experiences which include: team building activities, field trips, and self-reflections.

As an attempt to establish relationships, students and faculty spend the first weekend of the quarter together at FFA camp to foster the growth of the new community through team building exercises. According to Beck and Kosnik (2001) "learning takes place more effectively if all community members-students and teachers alike-know each other and have a genuine relationship with each other." The three intense days spent together at camp initiates the development of many genuine relationships.

Constant communication and reflection is an important aspect of maintaining a successful cohort. During the duration of the "Block", students are split into focus groups

to reflect on courses, workload, activities, fieldtrips, and any other aspect of the learning community experience. Faculty members facilitate changes to the cohort experience accordingly as a result of the student feedback.

Results

The "Block" learning community has been successfully implemented for eight years. Observations from the "Block" have been positive. Responses from students have been reported that the challenges experienced throughout the cohort have promoted positive growth, both personally and professionally. Students have described a sense of belonging that has lasted with them into the journey of becoming an agricultural teacher in the profession. The inclusiveness of group members has built a stronger community of learners and professionals. Learning how to become reflective in order to promote professional growth has promoted skill development, which can increase efficiency and effectiveness in agricultural education classrooms.

Advice to Others

Teaching is a social profession in which teachers must know how to form relationships and interact with students and other teachers, as well as practice reflective teaching. Goodlad (1990) noted that programs for the education of educators must be characterized by a socialization process through which candidates transcend their self-oriented perceptions to become more other-oriented, to identify with a culture of teaching (Radencich, Thompson, Anderson, Oropallo, Fleege, Harrison, Gomez, & Hanley, 1998). The reflective cohort model of teaching and learning can leave positive and lasting relationships among its members if executed successfully.

The use of cohort communities to prepare teachers has been proven effective through international research. The use of active participation in the learning and reflection process within a cohort should be fostered, not only to improve students' academic performances, but also teach them to work within a group and socialize them for the profession. Relationships should be fostered between group members in order to promote more frequent collaboration in the learning community, as well as in the profession. Self-reflection should be taught and encouraged during each activity in which the students have the opportunity to make themselves a better educator.

Although there can be disadvantages to utilizing a reflective cohort model, teacher educators should weigh the pros and cons of implementing this type of teacher preparation program. If the negative aspects of a learning community are addressed before a community is implemented, the likelihood of the ill-effects occurring can be eliminated. There is always room for improvement, and changes have been made accordingly to the "Block" as issues arise. Constant reflection and communication between faculty and students result in positive alterations to the learning community, which can improve the experience for future preservice teachers.

Costs/Resources Needed

In order to execute a learning community, faculty and staff need to devote the time and energy to prepare and coordinate courses in order to have relevant and interrelated content. Field experiences can vary in costs, depending on the experiences deemed appropriate by the faculty.

References

Beck, C. & Kosnik, C. (2001, November). From cohort to community in a preservice teacher education program. *Teaching and Teacher Education, 17*(8), 925-948.

Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey-Bass.

DePorter, B., Reardon, M., & Singer-Nourie, S. (1999*). Quantum teaching: Orchestrating student success.* Needham Heights, MA: Allyn & Bacon.

Dinsmore, J. & Wegner, K, (2006, Winter). Relationships in preservice teacher preparation: From cohorts to communities. *Teacher Education Quarterly.*

Goodlad, J. (1990). Teachers for our nation's schools. San Fransico, CA: Jossey-Bass.

Radencich, M.C., Thompson, T., Anderson, N.A., Oropallo, K., Fleege, P., Harrison, M., Gomez, S., & Hanley, P. (1998). The culture of cohorts: Preservice teacher education teams at a southeastern university in the United States. *Journal of Education for Teaching, 24*(2).

Strange, C.C. & Banning, J.H. (2001). *Educating by design*. San Francisco, CA: Jossey-Bass.

Innovative Idea

More than Meets the Eye: Embedded and Substitute Science Credit in [State] Agriscience

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More than Meets the Eye: Embedded and Substitute Science Credit in [State] Agriscience

Introduction & Need for Innovation

Along with the advancement of agricultural technology, the field of agricultural education has also evolved from a vocational teaching tool into a scientific teaching tool (Peake, Duncan, & Ricketts, 2007). Additionally, due to factors such as changes in federal regulations concerning secondary education, "secondary agricultural education programs face many challenges in the new millennium" (Martin, Ball, & Connors, 2006, p. 14). However, these new developments and reforms in both agriculture and education have spurred growth toward the development of a modern science-based agriculture curriculum (Warnick, Thompson, & Gummer, 2004). With the development of the science-based agriculture curriculum becoming apparent, current and future agricultural educators need and will continue to need an expanded understanding of science concepts (Dormody, 1992).

The understanding of the need of the integration of science concepts into agricultural education curricula is not a recent development. In 1988, "the National Research Council recommended that science credit should be granted for certain agriculture courses" (Johnson, 1996, p. 22). Moreover, increased recognizable science education within an agricultural context has led to strong agricultural educator support for curriculum integration as well, as Newman and Johnson (1993) demonstrated through the development and teaching of pilot secondary agriscience courses in Mississippi during the 1991-92 school year. Additionally, Newman and Johnson (1993) reported that agriculture teachers perceived that "building administrators, guidance counselors, and science teachers all support the program" (p. 56).

Science teachers have also supported the integration of science concepts into the agriculture curriculum (Warnick, Thompson, & Gummer, 2004). In Arkansas, the "majority of respondents supported granting science credit for agriculture" (Johnson, 1996, p. 22). Moreover, Johnson (1996) reported that 64.5% of science teachers supported the granting of science classroom credit for agricultural classroom enrollment (p. 22). However, despite the utilization of science concepts within the agricultural classroom, some teachers have felt that their classroom is perceived as a "'back-up plan' for students not planning to go to college… many students had behavior problems, learning disabilities, or attention-deficit/hyperactivity disorder" (Grady, Dolan, & Glasson, 2010, p. 15). Perhaps increased cooperation between science teachers and agriculture teachers can redefine the ways that the agricultural classroom is conducted and viewed (Grady, Dolan, & Glasson, 2010; Warnick, Thompson, & Gummer, 2004; Johnson, 1996; Newman & Johnson, 1993; Dormody, 1992).

How it Works

In 2009, the [State] Agriscience Education course of study was cross-walked with the [State] science course of study (Personal communication, P. Paramore, January 27, 2011). The result of this effort was a discovery that there were three (3) courses that contained at least 140 contact hours of science education. The courses that contain at least 140 contact hours of science education are listed as follows: Aquaculture Science, Environmental Management, and Plant Biotechnology. Furthermore, it was determined that these courses could be substituted for the following science courses: Aquascience, Environmental Science, and Botany, respectively. It was also determined that certain courses also contained at least 1 hour of science credit but less than 140 hours. Examples of this credit allocation system include, but are not limited to, the Horticulture Science, Fish and Wildlife Management, and Agriscience courses, with each course potentially awarding 55, 110, and 94 embedded science hours, respectively.

In order to award embedded and substitute science credit, agricultural educators must be highly qualified in both agriculture and science (United States Department of Education, 2005, Qualifications for Teachers and Paraprofessionals Section, ¶ 2).Moreover, agriculture teachers who desire to earn additional certification in science must document two full years of successful teaching experience at the desired grade level and present an acceptable score on a Praxis II test in a science field ([State] State Department of Education, 2008).

Results to Date / Implications

A small number of teachers are currently offering embedded and substitute credit through the [State] Agriscience Education curriculum (Personal communication, P. Paramore, January 27, 2011). Moreover, through this additional subject matter certification, it is possible that student enrollment in agriscience courses will increase due to the possible awarding of science credit upon completion of the corresponding agriscience course(s).

Future Plans / Advice to Other States

Agriscience teachers are encouraged to pursue additional subject matter certification in science in order to be granted “highly qualified” status in compliance with the No Child Left Behind (NCLB) Act (Personal communication, P. Paramore, January 27, 2011). It is advisable that states consider the adoption of utilizing agriscience classes as a system of awarding embedded and/or substitute credit in lieu of traditional science classes. Furthermore, school administrators are advised to conduct workshops in which science teachers and agriculture teachers are taught and encouraged to collaborate in order to develop science-enhanced agricultural education curriculums.

Cost

Overall, the cost is relatively low for the benefits. In order to become certified to award embedded and/or substitute science credit in [State], an agriculture teacher must successfully pass a Praxis II test in a science field, which costs $80 per test (Educational

Testing Service, 2010). Ultimately, it is desired that all agriculture teachers will pursue certification in science as well as agriculture in order to potentially enhance the flexibility and relevance of the modern agricultural education curriculum.

References

[State] State Department of Education. (2008). *Rules of the [State] state board of education: Teacher certification professional services*. Retrieved from *http://www.alsde.edu/search/default.aspx?query=Rules+of+the+[State]+State+Board+of+Education*

Dormody, T. J. (1992). Exploring resource sharing between secondary school teachers of agriculture and science departments nationally. *Journal of Agricultural Education, 33*(3), 23-31. doi: 10.5032/jae.1992.03023

Educational Testing Service. (2010). *The praxis series information bulletin*. Retrieved from http://www.ets.org/Media/Tests/PRAXIS/pdf/01361.pdf

Grady, J. R., Dolan, E. L., & Glasson, G. E. (2010). Agriscience student engagement in scientific inquiry: Representations of scientific processes and nature of science. *Journal of Agricultural Education, 51*(4), 10-19. doi: 10.5032/jae.2010.04010

Johnson, D. M. (1996). Science credit for agriculture: Relationship between perceived effects and teacher support. *Journal of Agricultural Education, 37*(3), 9-17. doi: 10.5032/jae.1996.03009

Martin, M. J., Ball, A. L., Connors, J. J. (2006). A historical analysis of H.M. Hamlin and the community school concept. *Journal of Agricultural Education, 47*(2), 14-23. doi: 10.5032/jae.2006.02014

Newman, M. E. & Johnson, D. M. (1993). Perceptions of Mississippi secondary agriculture teachers concerning pilot agrisicence courses. *Journal of Agricultural Education, 34*(3), 49-58. doi: 10.5032/jae.1993.03049

Peake, J. B., Duncan, D. W., & Ricketts, J. C. (2007). Identifying technical content training needs of Georgia agriculture teachers. *Journal of Career and Technical Education, 23*(1), 44-54.

United States Department of Education. (2005). *No child left behind act of 2001*. Retrieved from *http://www2.ed.gov/policy/elsec/leg/edpicks.jhtml?src=ln*

Warnick, B. K., Thompson, G. W., & Gummer, E. S. (2004). Perceptions of science teachers regarding the integration of science into the agricultural education curriculum. *Journal of Agricultural Education, 45*(1), 62-73. doi: 10.5032/jae.2004.01062

Opening Doors in Agricultural Education: Recruitment, Preparation, and Careers

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Opening Doors in Agricultural Education: Recruitment, Preparation, and Careers

Introduction

The National Council for Agricultural Education (2000) developed a vision for agricultural education for the year 2020 that calls for an agriculturally literate society. To reach this vision, our nation needs an abundant supply of highly motivated, well-educated teachers that represent the demographics of our country in order to provide agriculture, food, fiber and natural resource systems education. Faced with an ongoing shortage of qualified secondary agricultural educators across the state and the nation (Kantrovich, 2010), this project was proposed through the United State Department of Agriculture Hispanic Serving Institution's (USDA HSI) Educational Grant program to increase the number of underrepresented students pursuing and completing the Agricultural Education Teacher Preparation program at California State University, Fresno (CSUF). As an increased number of Hispanic teachers would provide the profession with much needed role models to help inspire the thousands of Hispanic students in California who might otherwise view higher education and a career in agriculture as an unlikely option. Through the activities and experiences provided by this project, student participants will learn what it's like to truly be "engaged" in the world of an agricultural educator.

How It Works

Through the initial year of this three year project, the following steps have been taken to accomplish the four objectives set forth by the project staff.

Objective 1: Provide an Agricultural Education Orientation (AEO) course at College of the Sequoias (COS) and CSUF that incorporates lecture, discussion, field experience, experiential learning, and online learning activities. To accomplish this objective the project staff reviewed and modified the existing CSUF course curriculum for delivery at COS. The new course curriculum, taught in spring 2011 at both institutions, now includes lecture, discussion, field experience, experiential learning and online learning activities. A website was also created for the project to provide information for prospective students, course participants, and the public.

Objective 2: Assist and facilitate community college students' transition from community college to the four-year university by utilizing adult mentors and related field experience. In the first week of the AEO course students selected an agriculture teacher mentor at a high school in their local area. Students traveled to that school on a weekly basis to complete a minimum of 45 hours observing their teacher mentor. Mentors teachers assisted students throughout their time in the course and were asked to follow up with students and provide continued encouragement.

Objective 3: Recruit and enroll at least 20 students each year in the AEO course, with at least 10 being enrolled in the course at COS. In order to achieve this objective the project staff set the following goals: 1) CSUF faculty and/or outreach staff will meet with at least 20 agriculture students each year at COS to answer any questions and provide transfer advising; 2) the university's Ag Ambassador team will provide a recruitment presentation in at least five agricultural classes at COS annually; and 3) once students complete the AEO course and transfer to CSUF they will continue to be advised and mentored towards their degree by the Project Director at least twice per year.

Objective 4: Provide financial assistance to one newly recruited Agricultural Education student from an underrepresented population who completed the AEO course at COS, in order to assist with retention efforts of that student. This financial support would provide the student the necessary funding to engage in program activities while still focusing on their educational goals.

Results To Date

The AEO course was successfully offered and delivered at both institutions during the 2010-2011 academic year. In the first project year, 12 students enrolled in the AEO course at COS and 17 students at CSUF. Of those at COS, 30% were Hispanic/Latino students. All 29 students enrolled in the two AEO courses were assigned a secondary agriculture teacher mentor to assist them and provide career guidance and encouragement. All 12 students enrolled in the new course at COS completed 45 hours of observation at their mentor teacher's school. At CSUF, 13 of the 17 students completed 45 hours of observation at the mentor teacher's school. The university's Ag Ambassadors made presentations to six different COS agriculture classes, a total of 162 COS students attended these presentations.

At the end of the spring 2011 semester, 11 of the 12 COS students enrolled in the AEO course indicated they had a favorable impression of an agricultural education career and were interested in pursuing a career in this field. Five of the community college students completing the AEO course enrolled at CSUF for the fall 2011 semester. Three are majoring in agricultural education, while the others are plant science or animal science majors. Twenty-seven COS agriculture students met with a CSUF representative to establish their academic and transfer plans. One student was selected to receive full financial assistance from the COS applicants that had enrolled at CSUF for the fall 2011 semester majoring in Agricultural Education.

Conclusions/Future Plans

CSUF and COS have forged a working relationship in an effort to provide effective outreach and recruitment of Agricultural Education students attending COS and planning to transition to CSUF. This project has proven to be successful in assisting community college students learn more about a career in agricultural education. In the first year of the project, participants clearly stated the positive impact of their experience and communicated their favorable opinion of a career teaching secondary agriculture. The project staff will continue with their current project plan and will utilize annual

evaluations to improve the project's effectiveness in future years. By the completion of the grant, project staff hope to generate adequate AEO course enrollment, which will allow the continued offering of the course at COS. Additionally, further consideration will be given to opportunities to replicate this project at another community college in the state.

Cost

This project was funded by a grant from the United Department of Agriculture's Hispanic Serving Institutions Educational Grants program. The grant provided at total budget of $290,000.

References

Kantrovich, A. J. (2010). *A national study of the supply and demand of teachers of agricultural education from 2006-2009*. Retrieved from American Association for Agricultural Education Web site: http://aaaeonline.org/files/supply_demand/2010%20Supply%20 and%20 \Demand%20study %20report%20v5.pdf

National Council for Agricultural Education. (2000). *The national strategic plan and action agenda for agricultural education: Reinventing agricultural education for the year 2020*. Retrieved from the National Council for Agricultural Education Web site: http://teamaged. org/council/images/stories/pdf/plan2020.pdf

Promoting Agri-Science Literacy Through A State Fair Learning Scavenger Hunt

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Promoting Agri-Science Literacy Through A State Fair Learning Scavenger Hunt

Introduction

Communicating the science behind agriculture and its importance is essential for developing a factually based view of agriculture; however, the challenge lies in using an appropriate educational outlet. The National Research Council Committee on Learning Science in Informal Environments (2009) states that "Designed spaces…can support science learning. Rich with real-world phenomena, these are the places where people can pursue and develop science interests, engage in science inquiry and reflect" (p. 293). One example of this is The Wonder Trail (TWT), an agricultural science exploration program at the [State] State Fair ([S]SF). With an audience of nearly one million visitors annually, with the majority of them being families, the [S]SF provides an ideal event to facilitate an agricultural education experience ([State] State Fair, 2011). The [S]SF is an experiential educational event, designed to promote agriculture and science education in a family-friendly environment.

In children's informal encounters with science, parents play an important role in scaffolding and creating a meaningful learning experience (Crowley et al., 2001), thus incorporating adults into the program is essential. The agricultural and science experience needs to be structured in a way that encourages family conversation and exploration as they discover and take part in learning together. TWT is grounded on the principles of experiential learning, placing emphasis on participants' individual encounters and encouraging interaction with the environment (Kolb, 1984; Lewis & Williams, 1994). Finally, the incorporation of supplemental project-based activities to be completed after the Fair experience seeks to promote a deeper understanding of the science in agriculture.

How It Works

TWT demonstrates a unique aspect of individual exploration and family learning. Designed to encourage interaction and conversational investigation on the topics of science and agriculture with youth and their families, two important components were developed. The first component is the scavenger hunt taking place at the [S]SF. To participate, children acquire a Wonder Trail Map from various locations around the fairgrounds and with the help of an adult, begin a self-guided quest. The map lists a variety of places to visit around the fairgrounds, with each stop, having an educational display, referred to as a kiosk. These kiosks share educational information related to agricultural objectives and promote participants to interact with the exhibits located around the kiosk. At each kiosk, there is a question and answer related to the objectives. This answer must then be recorded on the space provided on the map. Upon visiting a certain percentage of the stops and recording the correct answer, participants are rewarded with a small prize. While the prize has small monetary value, its purpose is to motivate trail completion.

The second component is the online curriculum. Designed to promote further literacy, learning and discovery, the lessons utilize a project-based model of agricultural and scientific themes (Mabie & Baker, 1996). Aimed for implementation after the fair or as a stand-alone curriculum for a classroom, the learning objectives of the lessons correspond with topics located at each kiosk and stimulates participants to explore ideas beyond the information learned at the [S]SF. Focused on a central learning activity, there are also discussion questions to help participants reflect on their learning, as well as additional projects that are more challenging in nature. The more advanced activities are designed to appeal to older youth or as a continuation of learning for children that enjoyed the first section. The activities, questions and information are intended to promote discovery, leading to a well-developed understanding of agriculture, science, their purposes and importance.

Results to Date

In 2011, over 20,000 youth and their families were exposed to agriculture in a scientific context through displays on the [State] State Fairgrounds and the online modules of TWT. Summer staff of the [S]SF observed participants interacting with the display and surrounding exhibits and reported that participants described TWT experience as a positive encounter with agriculture. Observations of the youth and their families as they interacted with TWT, by the [S]SF summer staff indicated that there was extensive dialogue between adults and children as they worked together to answer the questions and examine the display. This family learning experience not only impacted children, but provided an educational experience for the older youth and adults alike, while promoting an understanding of modern agriculture.

Future Plans

Making TWT relevant and appealing will be important in helping to maintain its effectiveness. Future plans include the use of Quick Response (QR) codes to connect the participants, via their smart phones, to the online modules. Allowing the immediate access to the learning activities is expected to increase the use of the educational materials after the Fair experience. Also planned is the matching of educational materials with [State] Academic Standards. Connecting the activities with state learning standards assists educators in aligning TWT activities with their selected lessons, and increases the likelihood of class field trips to the Fair. Finally, increased promotion of TWT is needed; plans include encouraging families to participate by use of technology, such as microblogging (e.g., Twitter), online parent forums and other blogs.

Costs Associated with Developing The Wonder Trail

The costs and resources associated with developing The Wonder Trail are:

- Personnel costs for curriculum development, including exhibit displays.
- Costs of creating and maintaining kiosks.
- Costs of lanyards, maps and prizes for the participants.
- Costs of advertising and promotion of TWT.

- Costs of website design and maintenance of the online curriculum.

References

Crowley, K., Callanan, M.A., Jipson, J.L., Glaco, J., Topping, K., & Shrager, J. (2001). Shared scientific thinking in everyday parent-child activity. *Science Education, 85*(6), 712-732.

[State] State Fair. (2011). *Sponsors.* Retrieved October 20, 2011, from [State] State Fair: www.[State].gov/statefair/fair/docs/2011/2011SponsorshipMenu.pdf

Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice Hall.

Lewis, L.H., & Williams, C.J. (1994). Experiential learning: Past and present. *New Directions for Adult and Continuing Education, 62*, 5-16.

Mabie, R., & Baker, M. (1996). A comparison of experiential instructional strategies upon the science process skills of urban elementary students. *Journal of Agricultural Education, 37*(2), 1-7.

National Research Council. (2009). *Learning science in informal environments: People, places, and pursuits.* Washington DC: National Academies Press.

Reducing School Liability by Incorporating Brake Activation Devices on Woodworking Equipment

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Reducing School Liability by Incorporating Brake Activation Devices on Woodworking Equipment

Introduction & Need

Agricultural mechanics courses are popular among secondary students throughout the United States (Anderson, Velez, Anderson, 2011). This increase in popularity adds to the importance of maintaining a safe laboratory environment. The nature of the agricultural mechanics laboratory combined with the inexperience of secondary students and the proximity to dangerous equipment and chemicals creates the potential for injury (Dyer & Andreasen, 1999). The prevention of these potential injuries is the responsibility of the instructors, administrators, and school district. Alternatively, Gliem & Miller (1993) reported that administrators believe laboratory equipment safety is primarily the teacher's responsibility.

Regardless of responsibility, safety in the classroom is not only essential for learning, but a legal obligation as well (Daniels, 1980; Gliem & Hard, 1988). Even though agricultural educators may appear to be adequately providing instructional safety to students, susceptibility to legal action resulting from student injuries still exists (Dyer & Andreasen, 1999). In a study of Utah school shop accidents, Knight, Junkins, Lightfoot, Cazier, & Olson (2000) reported that in-patient charges for student injuries sustained in the shop averaged $3,821. This does not include potential pain and suffering compensation or personal injury settlements which typically exceed actual medical costs. In two thirds of school related injury settlements, school districts paid an average award of $562,915 (Barrios, Jones, & Gallagher, 2007).

Injuries sustained from woodworking are relatively common due in part to the unpredictability of wood as it moves through the saw blade. In a report for the Consumer Product Safety Commission, Adler (2002) estimated that 93,880 saw-related injuries were treated in U.S. hospital emergency rooms in 2001 alone. Of these saw-related injuries, 55% involved table or other stationary saws, 15% involved miter saws, 8% were the result of band saw accidents, and 4% involved the use of radial arm saws. Specifically relating to secondary school incidents, Knight et al. found that 1,008 students from grades 7-12 were involved in shop class injuries in Utah from 1992-1996. Of these injuries, 88% were the result of equipment use (Knight et al., 2000).

The use of brake activation devices may prevent many of these types of woodworking accidents. Brake activation devices are currently available on various types and sizes of table and cabinet saws. Band saws, jointers, and miter saws with brake activation devices are in the advanced stages of development and will soon be commercially available. The development of these tools represents an opportunity for schools to reduce their liability in the woodworking area of the agricultural mechanics laboratory. This is a message which should be heard by instructors and administrators alike.

How it Works

A table saw blade is essentially a flywheel which stores a tremendous amount of energy. This inertia, combined with the power generated from a standard table saw motor creates a significant amount of force. This force must be stopped in a matter of

milliseconds if an injury is to be prevented. In order to accomplish this, the brake activation system is composed of several parts. Initial activation is triggered by an electronic detection system. This system relies on the relative difference in conductivities between wood and the human body. A constant electrical current flows across the saw's blade and through the monitoring device. In the event that a human body part makes contact with the saw blade, the current is disrupted, thereby signaling the monitoring device to activate the brake. The brake apparatus is composed of a spring and aluminum block, called a brake pawl. The spring is compressed by a fuse wire, which is burned by a surge of electricity generated by the monitoring device. Once the spring is released, the brake pawl is pushed into the teeth of the blade, stopping rotation almost immediately. Simultaneously, the entire blade is retracted below the table surface and the power is turned off. The entire braking process occurs in approximately $1/200^{th}$ of a second.

Implications

A survey conducted by Becker, Trinkaus, and Buckley (1996) found that 65% of 283 amateur and professional woodworkers in New Mexico had reported tool-related injuries. Of those 184 woodworkers, 61 had reported sustaining injuries of enough severity to require medical attention. Specifically relating to secondary agricultural education, Dyer and Andreasen (1999) reported that a mean of 1.3 student accidents requiring medical attention and 13.3 minor accidents occurred per year when high school agricultural programs were examined. In contrast, no lacerating table saw injuries requiring medical attention have been reported to date from table saws properly equipped with brake activation devices. The addition of these saws to secondary and postsecondary agricultural mechanics laboratories can significantly reduce the liability caused by students using standard table saw equipment. Moreover, Saucier, Vincent, and Anderson (2011) concluded that teachers who continue to use equipment not equipped with these devices are positioning both the teacher and administration for possible liability for professional negligence.

It should be noted that brake activation devices do not prevent all types of woodworking accidents, and do present some negative implications as well. Brake activation devices do not prevent wood kickback, as this phenomenon does not involve contact between the human body and the saw blade. Additionally, the electrical nature of the detection system creates limitations when cutting lumber with high moisture content. Keyed access also allows the brake activation system to be temporarily disarmed, or placed into bypass mode, for cutting this high moisture lumber or other conductive materials. Instructors leaving the saw in bypass mode will render the saw no safer than a standard table saw.

Future Plans & Advice to Others

[State] University intends to immediately purchase the miter saw, band saw, and jointer equipped with brake activation technology as soon as this equipment becomes commercially available. However, this advanced equipment is not intended as a replacement for traditional safety training. Secondary school budget restraints may create a barrier to the acquisition of this type of equipment. Saucier, et al. (2011) reported that reduced school budgets may lead to the use of unsafe equipment. However, given the exceeding high potential liability costs, the equipment is a relatively small investment.

Nontraditional funding sources are available from the industrial sector, safety organizations, and labor unions.

Cost

The costs for the table saw equipped with brake activation at [State] University included $2,569 for the cabinet saw, $199 for the mobile base, $139 for a dust-collecting blade guard, and $69 for an additional brake cartridge. The total project cost was $2,976. Other brake activating table and cabinet saws are available and range in price from $1,600 to $4,800. Multiple saw sizes, configurations, power options, and accessories account for the wide range of prices. Indirect cost may arise from instructor training and equipment installation as well.

References

Adler, P. (2002). *Table Saw Related Injuries and Fatalities 1991-2000*. (Data Report) U.S. Consumer Product Safety Commission: Bethesda, MD.

Anderson, S. M., Velez, J. J., & Anderson, R. G. (2011). Using the health beliefs model to comparatively examine the welding safety beliefs of postsecondary agriculture education students and their non-agricultural education peers. Proceedings of the 2011 AAAE Research Conference, 38, 288-301.

Barrios, L. C., Jones, S. E., & Gallagher, S. S. (2007). Legal liability: The consequences of school injury. *Journal of School Health*, 77(5), 273-279.

Becker, T., Trinkaus, K., & Buckley, D. (1996). Tool-Related Injuries Among Amateur and Professional Woodworkers. *Journal of Occupational and Environmental Medicine* 30(10), 1032-1035.

Daniels, J. (1980). Safety: A relevant responsibility. The Agricultural Education Magazine. P. 4.

Dyer, J. E., & Andreasen, R. J. (1999). Safety issues in agricultural education laboratories: A synthesis of research. *Journal of Agricultural Education, 40*(2), 46-54.

Gliem, J. & Hard, D. (1988). Safety Education and Practices in Agricultural Mechanics Laboratories: An Asset or Liability. Paper presented at the 19th Annual National Agricultural Education Research Meeting, St Louis, Mo.

Gliem, J. A., & Miller, G. (1993). Administrators' attitudes, policies, and procedures regarding safety in vocational education laboratories. *Journal of Agricultural Education*, 34(4), 1-7.

Knight, S., Junkins, E., Lightfoot, A., Cazier, C., & Olson, L. (2000). Injuries Sustained by Students in Shop Class. *Pediatrics,* 106(1), 10-13.

Saucier, P. R., Vincent, S. K., & Anderson, R. G. (2011). Agricultural Mechanics Laboratory Safety: Professional Development Needs of Kentucky School-Based Agricultural Educators. Proceedings of the 2011 AAAE Research Conference, 38, 288-301.

Innovative Idea

Supervised Experiential Learning in Agriscience: The New SAE

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Supervised Experiential Learning in Agriscience: The New SAE

Introduction

Prior to the adoption of the National Vocational Education Act (Smith-Hughes) in 1917, Stimson formulated a new way of teaching agriculture, using what he termed the home project method (Moore, 1988). Students (boys) studying agriculture (farming) in schools were involved in hands-on learning. The Smith-Hughes Act specifically called for directed or supervised practice for students enrolled in the newly-established vocational agriculture programs in the public high schools. Students were to be provided the opportunity for such experiences either on the home farm or by the school (Roberts and Harlin, 2007).

Over the years, the concept has developed and the term to describe it has evolved. Students conducted supervised experiences as part of their supervised occupational experience program; eventually "occupational" was replaced by "agricultural" in both terms. SAE and SAEP continue to be the common terms (Camp, Clarke & Fallon, 2000). The Vocational Education Amendments of 1963 and 1968 broadened instruction in agriculture but the concept of hands-on experiences continued.

Camp et al. (2000) reported the results of a Delphi panel study about supervised agricultural experience. While several recommendations were posited, no official action was taken to adopt them. The most recent national publication regarding SAE is *Experiencing Agriculture*, the handbook on SAEP (Barrick et al., 1992). Definitions, models and descriptions of various types of SAEs were distributed along with lesson plans for teachers to use in the classroom.

The National Research Council study (NRC, 1988) promoted the new dual concept of instruction *in* agriculture and instruction *about* agriculture. But with that differentiation in instructional programs, there was no indication that SOEs [sic] should differ among students. Perhaps agriculture teachers have experienced difficulty in identifying suitable opportunities for students studying *about* agriculture as well as those studying *in* agriculture.

The National Research Agenda (Osborne, n.d.) identified a research priority to "enhance program delivery models for agricultural education." With less than half of the students enrolled in school-based agricultural education reporting an SAE (Hanagriff, 2010), the renewal and revitalization of the concept is needed. This poster presentation will address "What is the new SAE, is it still rooted in common assumptions, and how do we make change occur?"

Program Phases

In March 2010, the National Council for Agricultural Education "created an Experiential Learning Planning Committee as part of the National Council for Agricultural Education and report back at the October 2010 meeting that include a preliminary report on the literature on experiential learning, identify objectives, a timeline and to include a budget" (unpublished minutes, March 2010). That was translated into the following objectives.

1. To bring all organizations together to create a definition of experiential learning.
2. To identify the educational merits of experiential learning.
3. To add SAE to the college-ready/career-ready conversations.

4. To identify strategies that will help get SAE implemented by teachers.
5. To answer the question, "What does the construct of experiential learning contribute to learning?"
6. To identify resources that exist to make SAE happen.

While the concept of supervised experience in agriculture is not innovative, the concept of an innovative approach, or approaches, to modern-day experience-based programs in agriscience education is. This poster addresses the need for innovation of new experience program concepts by addressing these three primary questions:

Are long-established assumptions about agricultural experience programs still valid?

What is the new experience program in school-based agriscience education?

What must teachers, supervisors, teacher educators, and others do to enact the new SAE?

Results to Date

A comprehensive review of the literature was conducted on two topics: experiential learning, and supervised agricultural experiences. From that review a listing of the philosophical and theoretical principles that are frequently used in the study of SAE has been established. The literature also reveals a set of commonly held assumptions about SAE. A report of the research that affirms (or contradicts) those assumptions was developed.

The poster will present the philosophical and theoretical concepts that have been reported to be the foundation of SAE. In addition, the concept of experiential learning as developed from Dewey and expanded by Joplin and Kolb will provide the background for a new definition of SAE. The assumptions that support practice in supervised experience programs, based on the work of Jenkins (2008), will be listed. Three sessions during the March 2011 National Summit on School-based Agricultural Education provided an opportunity to receive feedback from teachers, supervisors and teacher educators. A summary of that information will be presented, as well as a new title and definition of "SAE." Additionally, ideas will be shared on the topic "who needs to do what to renew SAE" will be presented. A full report of the task force was presented to The Council in September 2011. Subsequently, an action committee was appointed by The Council to devise a plan of action; that committee was convened in February 2012 and reported to The Council. The findings of the committee will be included in the poster.

In summary, the poster will present these aspects of the innovation of what is currently called SAE.

1. Philosophical foundations and assumptions regarding supervised experience programs in school-based agricultural education.
2. Definition of experiential learning that includes "SAE" concepts.
3. A new definition of school-based agriscience education experience programs.
4. Recommendations for national, state and local adoption and implementation of the "new SAE."

Future Plans

In addition to the report to The Council, the results from this poster presentation will help guide additional national conversation and state and local action to enact needed change.

Resources

The project was funded by The Council and the various institutions that provide resources for teachers, supervisors and teacher educators to participate in the appointed committee. Costs associated with the initial effort were covered by The Council. Future resource needs depend upon constituent groups' acceptance of the work and movement toward implementation.

References

Barrick, R.K., Arrington, L.R., Heffernan, T., Hughes, M., Moody, L., Ogline, P., & Whaley, D. (1992). *Experiencing agriculture: a handbook on supervised agricultural experience.* Alexandria, VA: The National Council for Agricultural Education.

Camp, W.G., Clarke, A., & Fallon, M, (2000). Revisiting supervised agricultural experience. *Journal of Agricultural Education* 41(3), 13-22.

Hanagriff, R. D. (2010, October). *Helping create SAE value: growing the SAE portion of your program*. Indianapolis, IN: NASAE Conference.

Jenkins, III, C.C. (2008). *A quality agricultural education program: a national Delphi study.* Unpublished thesis, University of Kentucky.

Moore, G.E. (1988). The forgotten leader in agricultural education: Rufus W. Stimson. *The Journal of the American Association of Teacher Educators in Agriculture.* 29(3), 50-58.

National Research Council (1988).*Understanding agriculture: new directions for education.* Washington, D.C.: National Academy Press.

Osborne, E.W., editor (n.d.). *National research agenda agricultural education and communication.*

Roberts, T.G. & Harlin, J.F. (2007). The project method in agricultural education: then and now. *Journal of Agricultural Education.* 48(3), 46-56.

Innovative Poster

The Development of an Educational Continuum to Meet Agricultural Workforce Needs

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The Development of an Educational Continuum to Meet Agricultural Workforce Needs

Introduction/need for innovation or idea

Rivera and Alex (2008) called for enhanced productivity and increased production in agriculture, suggesting that the need "is painfully obvious" (p. 374) as depicted through the spike in world food prices and global efforts to reduce poverty and sustain the environment. Rivera and Alex posited that this need can be satisfied through the development of national knowledge economies and education for the knowledge economy. It was suggested that without a knowledgeable agricultural workforce (including producers, trained research and extension workers, program managers and support staff), agricultural systems are unlikely to remain sustainable and competitive even if all other factors (land, water, production inputs, etc.) remain constant. Thus, training of the agricultural workforce is necessary in order to sustain current levels of production. Literature suggested that institutions must cater to the needs of different target populations and provide location specific services to promote innovations (Kanawaty, 1992). Additionally, it is imperative that agricultural education "integrate elements of new technologies with environmental and natural resource management issues, risk management, and market requirements" (Rivera & Alex, 2008, p. 384).

This call for a more knowledgeable agricultural workforce based upon the needs of a target population, justifies the development of the [county] Sustainable Biofuels Research Center. Although this Center has many facets, one essential piece of the partnership is the development of an educational continuum which will provide for the development of a more knowledgeable workforce in [county, state].

How it works/methodology/program phases/steps

The educational continuum is part of a larger [county] Sustainable Biofuels Research Center project. The purpose of this center is to develop a partnership with the [university], [state college], and Intelligentsia International, Inc. The objective of the center is to foster the development of a sustainable industry for biodiesel, cellulosic ethanol and other biofuels in south [state].

In order to reach these goals, an educational continuum has been established in which biofuels technology and agricultural sustainability programs are being developed at the secondary school and post-secondary education levels. The secondary school level will contain a career academy focused on food and fuel production that is sustainable and compatible with ecosystem protection goals. The secondary school career academy facilitates students for evaluation of agricultural production from a larger perspective by bridging the divide between traditional agricultural production and ecological priorities. The ultimate goal is to develop a certification program for students enrolled in the career academy which recognized students' ability for employment within the agricultural field upon completion of high school within [county]. Students who wish to further their

education before entering the workforce have the opportunity to attend [state college] where they will receive further training and instruction in biofuels technology and sustainable agriculture.
At the post-secondary education level, programs at [state college] further examine knowledge and career opportunities within the biofuels industry. Students will work with researchers to further investigate biofuels production and could be responsible for research that contributes to the discipline. Completers of this program are equipped with skills to be employed in the industry as well as receive their associate's degree in this field. Students may choose to enter the workforce after receiving their associate's degree or they may choose to attend a bachelor's program at the [university] which will further develop technical skills in the biofuels discipline in a two plus two program. An articulation agreement between [state college] and the [university], students can further their investigations of biofuels technology in a seamless manner, focused on the issues that affect their local community.

The unique nature of this educational continuum allows students, who choose to participate in part or all components of the program, to develop knowledge in biofuels and sustainability which is directly applicable to the community in which they live. This continuum helps meet the call for a more knowledgeable and skilled workforce, while also promoting a location specific innovation.

Results to date/implications

Grant team members have identified members of the agricultural industry, university faculty members, and secondary/post-secondary school faculty to facilitate the development of these programs through the organization of a curriculum map for each institution. This was accomplished through the use of a true Delphi study. The Delphi study provided the grant team members with the fundamental topics needed to produce the curriculum map.

Future plans/advice to others

When thinking about the development of an educational continuum, it is important to consider the workforce needs of the community, as suggested by Rivera and Alex (2008). When opportunities such as this are developed, not only is a highly skilled and knowledgeable workforce being developed, but students have avenues for employment within their home community upon completion of their education.

Costs/resources needed

The development of an educational continuum such as this has very minimal costs. Once a community's workforce needs are identified, the major requirement to begin development is support and buy-in from community members and education administrators. When all stakeholders are committed, work on the development of the continuum can begin. It is important to note that although resources in structuring a continuum are minimal, there will be vast resources required to implement programs

within the continuum. Each program will have differing needs based on existing resources and faculty expertise.

References

Kanawaty, G. (1992). Human resources development and adjustment. In: M. Jones & P. Mann (Eds.), *HRD: International Perspectives on Development and Learning* (pp. 5-14). West Hartford, CT: Kumarian.

Rivera, W. M., & Alex, G. E. (2008). Human resource development for modernizing the agricultural workforce. *Human Resource Development Review, 7*(4), 374-386. doi: 10.1177/1534484308324633

Innovative Poster

The Employ Florida Banner Center for Agriscience – A Partnership to Create Strong Relationships between Agriscience and Agriscience Education

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The Employ [State] Banner Center for Agriscience – A Partnership to Create Strong Partnerships between Agriscience and Agriscience Education

Introduction/need for innovation or idea

The National Research Agenda's (Doerfert, 2011) third priority area calls for a focus on creating a "sufficient scientific and professional workforce that addresses the challenges for the 21st century." (p. 9). In late 2008, [State] legislation called for career professional academies and classes in secondary schools to be tied to industry certifications, thus creating a tight link between industry needs and course expectations of secondary career education classrooms. In response to this, [State] Farm Bureau created the Agriscience Career and Technical (ACAT) taskforce from the agriculture industry to discuss the impact the aforementioned legislation will have on the agricultural industry as well as to develop a plan of how to meet the needs of students and industry based on this legislation. Concurrently, [State] FFA state officers presented to Workforce [State] on the importance of agriculture and agricultural education within the state that Workforce [State] recognized that although agriculture is one of the oldest industries in the state that it is also an industry that had been ignored. From that came the need for a Workforce [State] Banner Center focused on agriculture, to help build a skilled workforce for the industry. [State] Farm Bureau was the entity to build and support that Banner Center.

How it works/methodology/program phases/steps

The Employ [State] Banner Center was started in July of 2009 by the [State] Farm Bureau with a grant from Workforce [State] Incorporated and the Agency for Workforce Innovation. The Banner Centers mission is to "strengthens agriculture and Agriculture Education in [State] through rigorous and relevant curriculum, viable industry relationships and strong partnerships" (Employ [State] Banner Center). The Banner Center brought together partners from the [State] FFA Association, the [State] Department of Agriculture, the University of [State] and the [State] Department of Education. Each of these partners provides a member to the steering committee of the Banner Center, and they are guided by an advisory council consisting of industry and education representatives.

The Employ [State] Banner Center supports secondary agriculture education programs by providing industry driven frameworks, detailed curriculum and industry certification exams. The partnerships between all of the collaborators, as well as the involvement of industry specific personnel, are evident in all steps of development and acceptance of the frameworks, curriculum and certification exams. This is what drives the program.

Industry representatives are selected based on their association with the particular framework and certification test area (i.e. agriculture biotechnology) to serve on the committee. These committees provided guidance in the creation of the frameworks and tests to ensure that they are not only rigorous and relevant but that they are truly industry driven. Each committee is facilitated by a member of the University of [State] faculty from the department of Agricultural Education and Communication and consists of at least 50% industry representatives. The other representatives are from the [State]

Department of Agriculture, the [State] Department of Education or are current or former high school teachers.

Results to date/implications

To date the various committees have created frameworks for agritechnology, animal science, veterinary assisting, agricultural communication, agriculture biotechnology, plant biotechnology, and environmental resources. More than 200 teachers utilize the curricula.

The agritechnology and agriculture biotechnology tests have been created. There have been 109 teachers, students and industry people certified with agritechnology since testing began in May 2011. This is a pass rate of 69%. There has also been positive and encouraging industry feedback about the programs. As the curriculum and certification testing has only been available for a year this feedback is very positive and the program hopes to continue to meet the needs of the industry, students, and teachers in the agriculture field.

Future plans

When the Workforce [State] funding grant is up this summer, the Banner Center will become two entities within [State] Farm Bureau. The Center for Agricultural Education will be a not for profit entity that will take over the duties of re-evaluating the frameworks for agriculture education as well as the development of curricula based on those frameworks. The other entity will be The Agriculture Education Services and Technology. This will be a for profit body that focuses on the certification processes, such as the creation and administration of the exams and study guides, as well as providing support for the Center for Agricultural Education.

The agricultural biotechnology certification testing begins this May, with plans for the creation of agricultural communications and aquaculture tests to be developed in the future. Also, the agritechnology test will be revalidated to reflect current industry standards and the validity and reliability of the test questions. Study guides are being created to correspond with each of the certification tests. The Banner Center is working with its industry partners to reevaluate the needs of the current curriculum and certification as well as determine the next area for curriculum development. As part of the grant funding the Banner Center is also working with Abraham Baldwin Agricultural College in Georgia to provide their students support services to students outside the state of [State]. This extends the partnerships and benefits of those partnerships further.

Advice to others

Industry buy in is essential to a program such as this as it creates sustainability. This Banner Center is the only one created by the Workforce [State] grants that will continue once the funds are exhausted and this is due to the support of the agriculture industry in [State]. Another key to this program is that the people involved with state labor forces, whether a department of Labor or the Department for economic development, understand the value of the agriculture industry in the state. Being flexible is also vital to the program as you must be willing to make adjustments according to the needs of the industry as well as the needs of educators.

Costs/resources needed

Banner Center funding came from a three year grant from Workforce [State] Incorporated and the Agency for Workforce Innovation. It was a three year grant that required percentage matching. The first year Workforce [State] provided $300,000 with [State] Farm Bureau matching 25% with nongovernment subsidized funding. The second year Workforce [State] provided $200,000 with [State] Farm Bureau matching 40% and the third year Workforce [State] provided $100,000 with [State] Farm Bureau matching 60%. After the three year grant runs out in June, the Banner Center will split into two different entities within [State] Farm Bureau and will be self-funding.

Costs for Certification - $85 to take the test and $40 for 1 retake

References

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015.* Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Employ Florida Banner Center for Agriscience, Home Page. Retrieved from: http://www.agrisciencebannercenter.org/

Poster Type: Innovative

Training Cooperating Teachers to Use the Situational Leadership Model When Working with Student Teachers

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Training Cooperating Teachers to Use the Situational Leadership Model When Working with Student Teachers

Need for Innovation

The agricultural education profession struggles annually to fill all the teacher vacancies with qualified teachers (Kantrovich, 2007). Prior research has communicated the importance of the student teaching semester to the student's eventual career path decision (Deeds, Flowers, & Arrington, 1991; Norris, Larke, & Briers, 1990; Schumacher & Johnson, 1990). Cooperating teachers are an essential element in the preparation of student teachers. Past studies recognize the importance that cooperating teachers play in a successful student teaching experience (Barnes & Camp, 2002; Deeds, 1993; Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Moss & Rome, 1990; Norris, Larke, & Briers, 1990; Roberts, 2006).

Grieman, Addington, Larson, & Olander (2007) recommend that professional development be designed and implemented to allow agricultural teachers more insight into their leadership style and how that impacts their followers. One way the relationship may be improved is through training and utilization of the Situational Leadership Model (Hersey & Blanchard, 1969). This model states that the leader should match their leadership style to the developmental level of their follower.

The American Association for Agricultural Education's Research Priority Areas for 2011 – 2015 lists the priority area of "developing the models, strategies, and tactics that best prepare, promote, and retain new professionals" (Doerfert, 2011, p. 9). One way that this may be accomplished is training cooperating teachers to more effectively meet the developmental needs of the student teachers, in order to encourage more student teachers to accept a teaching position after graduation.

How it works

The workshop was developed to train cooperating teachers to utilize the Situational Leadership Model (Hersey & Blanchard, 1969) when working with their student teacher. Thirty-three agriscience teachers were identified as potential cooperating teachers for the 2011-2012 school year. Invitations were sent out via email and postal mail. Teachers were asked to reply using an online survey site.

Cooperating teachers participated in a two hour workshop to learn how to use the Situational Leadership Model (Hersey & Blanchard, 1969). The two main components, leadership style and follower development, were explained. The four leadership styles were explained to the cooperating teachers. Follower development level was explained as a combination of the student teacher's level of commitment and competence on job related tasks.

Examples of how to utilize the model, when working with student teachers, were demonstrated. Throughout the workshop, cooperating teachers were encouraged to share their experiences and ask questions related to implementing the model when working with the student teacher.

Results to date/Implications

Thirteen potential cooperating teachers attended the training. At the conclusion of the workshop cooperating teachers were asked to respond to three questions.
When asked what they enjoyed most about the workshop, the teachers responded that they enjoyed hearing the experiences of the other teachers present. They also appreciated knowing more about what the student teachers think when they are leaving campus to go to their student teaching site and the preparation that they receive while still on campus. Several mentioned that they like knowing what they can do to better help the student teacher.

> "The best part of the workshop was knowing that we are all on the same page trying to make it a good experience for the student teachers. Knowing the students are all different and need different instruction in different areas, I believe the workshop will help us identify these areas and their abilities better."

Cooperating teachers also appreciated that there is work being done at the college level to better match student teachers with cooperating teachers.

> "I feel like the idea of matching student and cooperating teacher personality types is a great idea. A large part of the first few weeks of hosting a student teacher is learning more about them and what will make their experience the best it can be, so the idea of placing them in a setting where the relationships will be mutually beneficial is definitely a step in the right direction."

In regards to what could be improved, several cooperating teachers desired more clarification about the model.

> "I am kind of a weird duck but I would like to know more about the theory of the four quadrant personality diagram you had on the board. Maybe give some statements a teacher, who was on a different level than the student teacher, might be able to say to that student teacher to help or encourage him/her. I would hate to say something being a certain personality type and accidently discouraging a different personality type student teacher when in reality he/she could be a great ag teacher."

The cooperating teachers also requested to know how the student teachers feel after completing the student teaching semester.

Future Plans

Cooperating teachers were overall receptive to the new method of working with their student teacher. Those that serve as cooperating teachers during the 2011-2012 school year will receive diagnostic information on their student teacher in order to begin to match their leadership style to meet their student teacher's needs. There are plans to present this workshop to other cooperating teachers. Efforts should continue to be made to help cooperating teachers develop methods to successfully work with student teachers.

Costs/Resources Needed

The only costs associated with this workshop were incentives provided to increase participation rate. The researchers used a grant to provide an incentive (round of golf) for this workshop.

References

Barnes, R. L., & Camp, W. G. (2002). Desirable characteristics of cooperating centers for agricultural teacher education. *Proceedings of the 2002 Southern Agricultural Education Research Conference*.

Deeds, J. P. (1993). A national study of student teaching requirements in agricultural education. *Proceedings of the 20th National Agricultural Education Research Meeting, 20*, 219-225.

Deeds, J. P., Flowers, J., & Arrington, L. R. (1991). Cooperating teacher attitudes and opinions regarding agricultural education student teaching expectations and policies. *Journal of Agricultural Education, 32*(2), 2- 9. doi:10.5032/jae.1991.02002

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University,* Department of Agricultural Education and Communications.

Edwards, M. C., & Briers, G. E. (2001). Cooperating teachers' perceptions of important elements of the student teaching experience: A focus group approach with quantitative follow-up. *Journal of Agricultural Education, 42*(3), 30-41. doi: 10.5032/jae.2001.03030

Grieman, B.C., Addington, L.S., Larson T.G., & Olander, K.R. (2007). Preferred leadership style of agricultural education teachers and the connection to personal characteristics. *Journal of Agricultural Education, 48*(4), 2007. doi: 10.5032/jae.2007.04093

Hersey, P., & Blanchard, K.H. (1969). Life-cycle theory of leadership. *Training and Development Journal, 23*, 26-34.

Kantrovich, A. J. (2007). *A national study of the supply and demand for teachers of agricultural education from 2004-2006*. American Association of Agricultural Educators.

Moss, J. W., & Rome, C. (1990). Satisfaction with agricultural education student teaching. *Journal of Agricultural Education, 31*(2), 29-34. doi: 10.5032/jae.1990.02029

Norris, R. J., Larke, A. Jr., & Briers, G. E. (1990). Selection of student teaching centers and cooperating teachers in agriculture and expectations of teacher educators regarding these components of a teacher education program: A national study. *Journal of Agricultural Education, 31*(1), 58-63. doi:10.5032/jae.1990.01058

Roberts, T.G. (2006). Developing a model of cooperating teacher effectiveness. *Journal of Agricultural Education, 47*(3), 1-13. doi: 10.5032/jae.2006.03001

Schumacher, L. G., & Johnson, D. M. (1990). Time series analysis of agricultural education student teachers' perceptions of agricultural mechanics lab management competencies. *Journal of Agricultural Education, 31*(4), 2-8. doi: 10.5032/jae.1990.04002

UNCLOUDING REFLECTION: USING WORD CLOUDS AS A METHOD OF REFLECTION

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UNCLOUDING REFLECTION: USING WORD CLOUDS AS A METHOD OF REFLECTION

Introduction/Need for Innovation

"There can be no words without images," this quote, from Aristotle, shows the importance of word clouds. Word clouds, also called tag clouds, are defined as a visualization of word frequency in a given text, as a weighted list (Feinberg, 2011). The intent of this paper is to provide educators options to use creative means, specifically word clouds, to enhance the experience of students. The objective of using word clouds is to allow learners to see their idea in an artistic format. Instead of seeing their words in a plain layout, they can insert their papers into word cloud software and make their own work of art. Being innovative often means taking risks and trying new strategies (Stedman, 2008). Giving learners different outlets to reflect on their work is important in expanding their critical thinking skills and in some cases, their emotional intelligence.

Dewey (1938) explained that learning occurs through a cycle of action and reflection. Word clouds use both of these components; students create a document based on a topic and then use a word cloud to reflect on the words used in the document. Kolb (1984) showed that learners need to reflect and observe experiences from different perspectives. Word clouds are a new perspective for students to view and reflect on their work. Knapp (2001) suggests that instructors need to carefully plan and guide reflections. Instructors will walk students through making word clouds so the students can then reflect on what they see in their word cloud.

Densten and Gray (2001) inferred, "reflection provides a meaningful way for leaders to gain genuine understanding." When thinking of these statements and strategies, word clouds go hand in hand with reflection. Students are looking at detailed accounts of what happened within the word cloud, instructors can also use the word clouds to draw out anything that may have gone unnoticed. The word cloud uses larger words when a word is used more frequently, this inadvertently draws attention to things that may have been overlooked. Finally, seeing the words in a different form will encourage learners to be aware of their feelings.

Word clouds encourage learners to think critically by giving them an artistic element to analyze. By reading over their word clouds and deciphering why certain words are displayed in certain ways will encourage the learners to think critically while reflecting on the assignment. Word clouds are unique and also encourage the learner to think in a unique and purposeful way.

How It Works

Students at [University] completed an assignment during which, they developed their own philosophy statement, explained how they developed their philosophy, then developed a word cloud based on the philosophy statement piece. After the students developed their word cloud, they were asked to write a short reflection based on the word cloud produced. Each student used the free software, Wordle.net, to build their word cloud. With this website, students are able to personalize their word cloud by changing the color, font, layout, etc. The professor walked students through the, very simple, steps to making a word cloud, prior to sending them out on their own.

Results to date

Students were broken into groups, during class, to share their word cloud experience. Professor and teaching assistants moderated as needed. Students are able to share their personal creation and explain, using their artistic work, what their philosophy is.

Based on the word cloud reflections, many students were very excited about their word cloud experience. A few outstanding quotes from students are reported: “After completing my Wordle, I believe I can better explain exactly what I believe my philosophy is,” “Throughout this paper and especially this word cloud, I have learned an immense amount of information about myself,” and “upon review of my wordle, it is interesting to see what words really pop out at me, it made me think more about these words and what they mean.”

Statements such as these are encouraging to educators who want to explore with an innovative reflection exercise. Students were able to reflect even more, after they created a word cloud. Being able to see which words were used the most was definitely helpful for many students, “I was a little surprised to see some of the words in the word cloud…I expected leadership and leader but squad, time, people, and always, surprised me. I guess for me, working in a team or squad has a significant amount to do with my leadership style.”

Future Plans/Advice to Others

The exciting part of word clouds is that, they are able to be used in many different situations. Science educators can use them to teach certain subjects, English professors can use them during writing exercises, and word clouds do not stop at the college level. With the technology available to primary school educators, word clouds can be used for a younger audience as well.

This method of reflection is creative, interesting, and thought-provoking. Students should be encouraged to think more critically by using word clouds as a reflection method. The great thing about word clouds is that they can be used for any situation, from papers to group project reflection. Seeing their work in a different form, will help the learners analyze the words and get an idea about how their feelings come out on paper. Word clouds help break up the monotony of regular lecture classes while giving students an opportunity to think critically and increase their emotional intelligence.

References

Boud, D., Keogh, R., and Walker, d. (1985). *Reflections: Turning experience into learning.* London: Kogan Page.

Densten, I., and Gray, J. (2001). Leadership development and reflection: What is the connection? *The International Journal of Educational Management, 15*(3), 119-124.

Dewey, J. (1938). *Experience in education.* Kappa Delta Pi.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Knapp, C. (2001) *Lasting lesson: A teacher's guid to reflection on experience.* Charleston, WV: Clearinghouse of Rural Education and Small Schools.

Kolb, D. A. (1984). *Experiential Learning.* Upper Saddle River, NJ: Prentice Hall, Inc.

Lajoie, D. (2002). *The emotional intelligence explosion. Moving business forward*. Retrieved December 16, 2002 from http://www.guelphchamber.com

Martinez, B., Beasley, A., Doerfert, D. & Akers, C. (2004). The need for the inclusion of emotional intelligence in the agricultural education curriculum: A literature review. *Proceedings of the 31st National Agricultural Education Research Conference*. St. Louis, MO, 31, 407-419.

Paul, R. (1995). *Critical thinking: How to prepare students for a rapidly changing world.* Santa Rosa, CA. Foundation for Critical Thinking

Stedman, N.L.P. (2008). Unleashing leadership through artwork. *Journal of Leadership Education, 7*(2), 14-23.

Web2teachingtools.com (2009). Wordle, a web 2.0 tool for developing 21st century learning skills. http://www.web2teachingtools.com/wordle.html

Innovative

Using Cognitive Style to Group Graduate Students in a Virtual Team Environment

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Using Cognitive Style to Group Graduate Students in a Virtual Team Environment

Introduction/Need for Innovation or Idea

"With the advent of the global economy and high-speed Internet, online collaboration is fast becoming the norm in education and industry" (Ubell, 2010). Many organizations and universities are beginning to utilize virtual worlds, such as Second Life, as a setting for organizational interactions and team-based activities. Although virtual settings have many benefits (e.g., reduced costs, increased access), they do not always foster conditions for ideal group dynamics and communication. Therefore, educators must consider ways to promote positive group dynamics. Lamm et al. (2011) concluded that "educators working to enhance educational programs [should] be aware of, and address, the impact individual cognitive styles can have on group dynamics" (p. 415).

Cognitive style involves "characteristic modes of perceiving, remembering, thinking, problem solving, and decision making, reflective information-processing regularities that develop in congenial ways around underlying personality trends" (Messick, 1994, p. 122). One view of cognitive style that has received theoretical and empirical attention is adaption-innovation theory (Kirton, 1976, 2003). This theory contends that one's problem solving style can be located on a continuum ranging from adaption, an ability to "do things better," to innovation, an ability to "do things differently" (Kirton, 1976, p. 622). Characteristics and behaviors of adaptors and innovators can be seen in Table 1.

Table 1

Adaptor and Innovator Characteristics and Behaviors
(Based on Kirton, 2000 & 2003, as presented by Robinson, Sherwood, & DePaolo, 2010)

Problem	**Adaptors**	**Innovators**
Risk	Appear to take fewer risks.	Take great risks.
Nature of solution	Produce consistent small wins and are creative at solving problems within existing rules & norms.	Think in terms of creating the "big win." and are less constrained by current rules & norms.
Solutions fit organization	Solutions may fit well with the organization's existing capabilities.	Solution proposed may require more change in order to implement.
Defining the problem	Want to be efficient. They focus early and work to clarify the problem.	Will redefine the problem to fit their understanding of the situation.
Problem scope & clarification	Ask questions to narrow the scope of the problem. (e.g., "What do you really mean here?")	Ask little clarification, ignore instructions, and prefer to answer to problem in the way they think it should be answered.

How it Works/Program Phases

The Kirton's Adaption-Innovation Inventory (KAI; Kirton, 1976) was used to assess the cognitive styles of students enrolled in *Risk & Crisis Communications in Agriculture and Natural Resources* at [university]. The KAI instrument is comprised of 32 scaled items used to calculate an overall participant score ranging from 32 to 160. Although one's degree of adaption or innovativeness is relative to the specific population or group, according to the general

population mean, individuals scoring below 95 points are considered adaptors and those scoring 95 or above are consider innovators.

The students' overall scores ranged from 72 to 117. Ten students were classified as adaptors and four students were classified as innovators. Cognitive style was then used to divide the students into groups. Because there were considerably more adaptors than innovators, students were divided into the following 3 or 4-person groups: two homogenous groups of adaptors and two heterogeneous groups with at least one adaptor and two innovators.

In these assigned teams, the students completed five phases of a crisis simulation in Second Life by mid-December 2011:

1. Prevention phase: Gather information and assess potential risks
2. Preparation phase: Conduct a crisis management team meeting with community members
3. Recognition phase: Engage in signal monitoring and identification of the crisis
4. Response phase: Conduct a press conference, addressing the concerns of the community
5. Evaluation phase: Engage in a evaluation of crisis assessment and monitoring procedures

Results to Date/Implications

To date, the homogeneous adaptor groups seem to more successful in their virtual teams than the heterogeneous groups. All groups have displayed evidence which aligns with previous research. Students from each of the groups shared the following comments about their activities in Second Life and the group dynamics of their virtual team:

Team Type	**Student Comment**	**Characteristic highlighted**
Homogeneous (adaptors)	"I feel we worked well together. By preparing questions in advance and compiling a list of most crucial inquiries, we were able to approach the meeting prepared."	How adaptors want to be **efficient**, focusing **early** & working to clarify the problem.
Homogeneous (adaptors)	"While in Second Life, no definite crisis came to mind. I helped the group come up with a few that could possibly happen due to other things that are going on right now."	How adaptors are creative at solving problems **within existing rules & norms**.
Heterogeneous (innovator perspective)	"We REALLY WANT to be right about the potential crisis [at the end] and therefore were VERY driven to find and share information."	How innovators think in terms of **creating the "big win."**
Heterogeneous (innovator perspective)	"After reviewing the island Twitter feed, we eliminated those [crises] that we felt were too obvious (i.e., climate-related issues like the drought or wildfires)."	How innovators are **less constrained by current rules & norms**.
Heterogeneous (adaptor perspective)	In discussion of her two innovator teammates, she said "I was a little apprehensive because [we] haven't done as much pre-planning as it seemed other groups had done."	How adaptors want to be **efficient** & focus **early** which is **not typical** of innovators.
Heterogeneous (innovator perspective)	"She is very detail-oriented…so she's very good at making decisions that we otherwise might dither around with."	How innovators prefer to answer to problem **their way** verses how adaptors are **more efficient.**

Future Plan/Advice to Others

The virtual component does not seem to alter the distinct adaptor or innovator characteristics displayed by the students in the teams. Initial results indicate consistency with other findings that cognitive style differences are problematic in teams but stretch students to create more optimal solutions; whereas, homogeneous cognitive style teams are desirable for more timely solutions (Robinson, Sherwood, & DePaolo, 2010).

Costs/Resources Needed

Resources needed included access to Second Life (available free via download from the Internet) and the Kirton's Adaption-Innovation Inventory (KAI) instrument. Use of the KAI instrument does involve a fee and a KAI Certificated Practitioner must administer and score the instruments.

References

Kirton, M. (1976). Adaptors and innovators: A description and measure. *Journal of Applied Psychology*, *61*(5), 622-629.

Kirton, M. (2000). *Adaptors and innovators*. Rickmansworth, Hertfordshire: KAI Distribution Center.

Kirton, M. (2003). *Adaption-innovation in the context of diversity and change*. New York: Routledge.

Lamm, A., Shoulders, C., Roberts, T. G., Irani, T., Unruh-Snyder, L., & Brendemuhl, B. (2011). Identifying how cognitive diversity influences group problem solving ability. *Proceedings of the American Association for Agricultural Education Research Conference, Coeur d'Alene, ID, 38,* 403-417.

Messick, S. (1994). The matter of style: Manifestations of personality in cognition, learning, and teaching. *Educational Psychologist*, *29*(3), 121-136.

Robinson, D. F., Sherwood, A. L., & DePaolo, C. A. (2010). Using adaption-innovation theory to enhance problem-based learning experiences. *Proceedings of the Allied Academics International Internet Conference, New Orleans, LA, 12,* 40-46.

Ubell, R. (2010). *Virtual teamwork: Mastering the art and practice of online learning and corporate collaboration*. New Jersey: John Wiley and Sons, Inc.

Innovative Idea Poster

Using Rubrics in Secondary Agricultural Mechanics Classes to Assess Students' Performance in the Laboratory

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Using Rubrics in Secondary Agricultural Mechanics Classes to Assess Students' Performance in the Laboratory

Introduction

One of the best aspects of agricultural education programs is that they provide opportunities for students to prepare for careers through experiential learning (Baker & Robinson, 2011; Phipps, Osborne, Dyer, & Ball, 2008; Roberts, 2006). The agricultural mechanics laboratory is an ideal venue for this experiential learning process to occur. However, due to the way the laboratory (i.e., shop) is designed, it has its downfalls. One such downfall is how instructors are able to evaluate students' performance and assign grades when students are working in the shop. Since a large portion of the agricultural mechanics course occurs in the laboratory setting, it can be difficult for teachers to evaluate students and assign grades that reflect student learning and participation accurately and fairly.

How it Works

The lead researcher for this proposal designed this project as the creative component for his master's degree. The purpose of this project was to provide a systematic approach for agricultural educators to evaluate their students' performance in laboratory settings easily and quickly, while also maintaining a fair grading system between students. Rubrics were implemented into an instructional unit that was created, titled, "Metal Project Construction and Planning." The unit consisted of lesson plans, PowerPoint® presentations, and application exercises. Rubrics were deemed an important component to the unit because they 1) help to keep the grading fair; 2) provide the students with an idea of what they are expected to do; 3) and help instructors keep grading consistent by ensuring that each student is held to the same standard and graded in the same manner (Goodrich, 1997).

As such, each lesson of the unit had a specific application that involved working in the shop, and each rubric designed sought to evaluate students' work in the laboratory setting based on the students' skill level. In addition to these lesson-specific rubrics, a daily work rubric was also developed for evaluating students each day they spent working in the laboratory.

In all, three lessons were created. Lesson one served as a tutorial on shop safety and hot metal work and was designed to refresh students' on the safety aspects of working in the shop before being able to participate in the laboratory. The rubric that accompanied this lesson strived to evaluate students' ability to use both a plasma arc cutter and an oxy-fuel cutting torch, as well as their welding ability to use both a MIG and arc welding machine. A worksheet was created and to provide each student with the specifications of what should be built. Thus, students will be evaluated on how closely they follow the directions and dimensions of the worksheet.

Lesson two was a lesson on how to read and use project plans correctly to build a project in the agricultural mechanics laboratory. It incorporated the skills needed to perform lesson one, and added new material to challenge the students further. The corresponding rubric was designed to evaluate students' performance in project plan literacy (i.e., dimensions, squareness, and design), hot metal skills, safety, and end product presentation.

Lesson three was a lesson on how to construct project plans using graph paper. In this lesson, students will be assigned to work in teams of two and decide on an idea for a project of their choice. After the idea is approved by the instructor, students will be allowed to create a project plan. The plan must use graph paper and include the proper scale and dimensions, complete with a bill of materials. The corresponding rubric to this lesson seeks to evaluate the teams' project plan, the quality of the construction of their project, safety, and their skills in hot metal work.

The daily work rubric is designed to be used throughout the entire semester while working in the laboratory. Since not all projects can be completed in one class period, the rubrics for each of the lessons will not apply for projects that encompass multiple days of students working in the laboratory. Rather, the daily work rubric will provide a way for the instructor to evaluate students on days in which the laboratory assignments extend over a period of several days and will evaluate variables such as work ethic, project progress, cleanliness, and safety.

Results to Date

The comprehensive unit of instruction titled, "Metal Project Construction and Planning" has been constructed, complete with lesson plans, PowerPoint® presentations, assessment exercises, and rubrics to evaluate students' performance, authentically, in agricultural mechanics laboratories. The lead researcher has defended his creative component to his committee and has made the edits to the final product. Further, he has accepted a teaching position in agricultural education in [State] and is using the unit and rubrics currently with his students. Finally, the unit is set to be shared electronically with other agriculture teachers in [State] through the student teacher website [http://aged.[XX]state.edu/studteac/downloads.htm].

Future Plans

All of the rubrics used in this project can be modified easily by current and aspiring teachers, and because of this, they can be adapted and used for other lessons taught in the agricultural mechanics class. In addition, with some creativity, they could be used in other laboratory settings (i.e., greenhouse and outdoor classrooms). The daily work rubric may or may not need to be modified to use in different agricultural mechanics classrooms/laboratories across the state.

Costs/Resources Needed

The primary costs associated with this project would be the instructor's time and materials (i.e., graph paper and scrap iron) needed for designing and constructing student projects (~25.00 per student). Secondary agricultural educators' time is precious. However, by developing rubrics for use in the laboratory settings beforehand, the instructor should save time in the long run because the rubrics can be recycled and re-used each year. Additionally, teachers will be able to evaluate students' performance authentically, based on their technical skill acquisition, in the career-related area of agricultural mechanics, which is important for preparing students for both careers and college (Roberts & Ball, 2009).

Some of the assignments in the project construction lesson require the students to purchase materials to construct a project of sufficient complexity. In such cases that students cannot afford to purchase materials to build the project, it would be up to the school or program to purchase these materials for the students. The completed projects could then be auctioned off at the end of the school year to provide money to fund student projects the following year.

References

Baker, M. A., & Robinson, J. S. (2011). Practical implications for the experiential learning theory in agricultural education: A conversation with Dr. David A. Kolb. *Proceedings of the 2011 American Association for Agricultural Education (AAAE) Research Conference. Coeur d'Alene, ID.* Retrieved from http://aaaeonline.org/uploads/allconferences/5-23-2011_293_proceedings.pdf

Goodrich, H. (1997). Understanding rubrics. *Educational Leadership, 54*(4).

Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools.* Clifton Park, NY: Delmar Learning.

Roberts, T. G. (2006). A philosophical examination of experiential learning theory for agricultural educators. *Journal of Agricultural Education, 47*(1), 17–29. doi: 10.5032/jae.2006.01.017

Roberts, T. G., & Ball, A. L. (2009). Secondary agricultural science as context and content for teaching. *Journal of Agricultural Education, 50*(1), 81–91. doi: 10.5032/jae.2009.01.081

Innovative Idea

Using Second Life in Experiential Learning to Promote Intercultural Diversity

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Using Second Life in Experiential Learning to Promote Intercultural Diversity

Need for Innovation

The National Research Agenda of the American Association for Agricultural Education (Doerfert, 2012) directs the creation of meaningful, engaged learning for the 21st century within efficient and effective agricultural education programs to train the workforce of tomorrow. Shinn, Briers, and Baker (2008) found that doctoral students in agricultural education must possess the ability to work with clientele possessing different cultural and societal needs, and an understanding and value for diversity. Teacher education study abroad programs influence intercultural development through engagement and immersion, transforming students' world views from ethnocentric to ethnorelative (Marx & Moss, 2011). The cost of studying abroad, however, has been identified as the most important obstacle to study abroad participation (Doyle, Gendall, Meyer, Hoek, Tait, McKenzie, & Loorparg, 2010).

Short-term study abroad programs affect intercultural development if the program is appropriately structured and offers immersion and experiential opportunities (Nam, 2011). Experiential education, where students work on relevant real-world projects to increase student engagement and produce intrinsic motivation for authentic learning, is a core component of university curriculum (Mason & Moutahir, 2006).

Second Life has been identified as a powerful environment for experiential learning, with a low barrier-to-entry for content creation and participation (Mason, 2007). Furthermore, Second Life has been demonstrated to increase intercultural communication and understanding (Diehl & Prins, 2008). Is it possible that Second Life scenarios could substitute for short-term study abroad trips when cost is a barrier to student participation? This proposition begs the question, "What level of interaction is needed in a Second Life experience before measurable, significant changes are observed in students' views of intercultural development?"

How it Works

Second Life is a virtual, three-dimensional online simulation environment developed by Linden Labs in 2003. Designed as a space for social interaction, SL users may virtually create objects or avatars to use them as they wish. Approximately one million users worldwide log in to SL every 30 days (Stevens, Kruck, Hawkins, & Baker, 2010). Second Life has been shown to be an effective distance education delivery method, and is the dominant platform for virtual worlds in education (Settle, Telg, Irani, Baker, Rhoades, & Rutherford, 2011; Warburton, 2009).

An online virtual scenario based on Church World Service's *Hungry Decisions* web-based exercise will be constructed in Second Life. *Hungry Decisions* uses a fictional story based on real experiences of people living in poor rural areas of developing nations. The participant is required to make a series of difficult decisions that are representative of life choices faced by individuals in developing countries. The exercise was created to

increase readers' global sensitivities toward the plight of poverty and injustice worldwide (Church World Service, n.d.).

Second Life research has found simulations to create a strong feeling of "being there" among participants (Warburton, 2009). Objects in Second Life can be created with varying levels of detail and interactivity, including motion and touch response. Sound effects and background noise can be added to increase reality. The avatar itself can be modified, with the appearance changed in terms of height, weight, skin color, and clothing. Other avatars, controlled by a program script or a live user, can interact with other users via text chat or voice, and may move or be static. Each of these details may contribute to the perceived reality of the user experience.

In order to determine whether the level of detail of the Second Life scenario has an impact on the level of cultural immersion and subsequent change in intercultural development, multiple versions of the Second Life scenario will be pilot tested. Each version of the scenario will follow the same basic script, but feature varying levels of interactivity and detail. Researchers hope to discover the threshold level at which details in a Second Life scenario produce changes in participants' intercultural development, and determine whether there is an efficient balance between student intercultural development and programming cost/time.

Students will be pre-tested using the Intercultural Diversity Inventory (IDI) instrument, treated with a version of the SL scenario, and then post-tested with the same instrument to learn if the simulation had any effect on the student's cultural competence, expertise, or sensitivity. The IDI measures ethnocentric and ethnorelative orientation towards cultural differences (Hammer, Bennett, & Wiseman, 2003).

Results to Date

A majority of respondents to a previous survey believed they had learned about different cultures through use of Second Life, and some found deeper cultural understanding of differences in modes of thinking or religious approaches (Diehl & Prins, 2008). Research has shown that a highly realistic simulation, created based on real world places, can be limited by lack of computer skill among participants (Harvey, Monahan, & Ullberg, 2007). Students participating in Second Life scenarios were found to be engaged, but there can be a mentality that "it's just a game" (Mason, 2007; Liu, 2006).

Future Plans

More than five hundred students will be asked to participate in this study to determine the optimal level of detail required for a Second Life scenario used as an experiential education project in higher education. Future plans include developing university level coursework to make greater use of Second Life scenarios emulating lessons learned during study abroad programs.

Resources Needed

This project supports current institutional efforts in Second Life education use. [State] university owns several active SL islands, a portion of which will be allocated to the faculty involved in this project. Costs associated with this project will include Second Life design consultation ($1,000) , purchase of IDI instruments ($10,000) and student incentives for participation ($3,000).

References

Church World Service. (n.d.) Hungry decisions. Retrieved from http://www.churchworldservice.org/decisions/index.htm

Doerfert, D. (2012). National research agenda: American Association for Agricultural Education 2011-2015 research priority areas. Retrieved from http://aaaeonline.org/files/research_agenda/AAAE_NRA_Priorities%20Summary.pdf

Doyle, S., Gendall, P., Meyer, L. H., Hoek, J., Tait, C., McKenzie, L., & Loorparg, A. (2010). An investigation of factors associated with student participation in study abroad. *Journal of Studies in International Education*, 14(5), 471-490.

Hammer, M. R., Bennett, M. J., & Wiseman, R. (2003). Measuring intercultural sensitivity: The intercultural development inventory. *Journal of Intercultural Relations*, 27(4), 421-443.

Harvey, K., Monahan, C., & Ullberg, L. (2007). CeaseFire ISLAND: Life in the hood. ???

Liu, C. (2006). Second Life learning community: A peer-based approach to involving more faculty members in Second Life. In D. Livingstone & J. Kemp (Eds.), *Proceedings of the Second Life Education Workshop at the Second Life Community Convention*. Retrieved from http://uwf.edu/atc/Cooltools/pdf/slcc2006-proceedings[1].pdf

Marx, H. & Moss, D. M. (2011). Please mind the culture gap: Intercultural development during a teacher education study abroad program. *Journal of Teacher Education*, 62(1), 25-47.

Mason, H. (2007). Experiential Education in Second Life. In D. Livingstone & J. Kemp (Eds.), *Second Life Education Workshop 2007*. Retrieved from http://www.michis.com/psicologia/pagine/Testi/SL_education_W2007_2.pdf

Mason, H. & Moutahir, M. (2006). Multidisciplinary experiential education in Second Life: A global approach. In D. Livingstone & J. Kemp (Eds.), *Proceedings of the Second Life Education Workshop at the Second Life Community Convention*. Retrieved from http://uwf.edu/atc/Cooltools/pdf/slcc2006-proceedings[1].pdf

Nam, K. (2011). Intercultural development in the short-term study abroad context: A comparative case study analysis of global seminars in Asia (Thailand and Laos) and in Europe (Netherlands). (Unpublished doctoral dissertation). University of Minnesota.

Settle, Q., Telg, R., Irani, T., Baker, L. M., Rhoades, E., & Rutherford, T. (2011). Instructors' social media use and preferences in agriculture classes. *NACTA Journal*, 55(2), 78-83.

Shinn, G. C., Briers, G., & Baker, M. (2008). Forecasting doctoral-level content in agricultural education: Viewpoints of engaged scholars in the United States. *Journal of Agricultural Education*, 49(1), 121-131/

Stevens, K. E., Kruck, S., Hawkins, J., & Baker, S. C. (2010). Second Life as a Tool for Engaging Students Across the Curriculum. In P. Zemliansky, & D. Wilcox (Eds.), *Design and Implementation of Educational Games: Theoretical and Practical Perspectives* (pp. 378-392).

Warburton, S. (2009). Second Life in higher education: Assessing the potential for and the barriers to deploying virtual worlds in learning and teaching. *British Journal of Educational Technology*, 40(3), 414-426.

Innovative Poster

Using Text Messages to Increase Student Engagement in the College Classroom

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Using Text Messages to Increase Student Engagement in the College Classroom

Introduction/need for innovation or idea

Today's college students are different than past generations (Carlson, 2005). The millennials are intelligent and ready to learn, however they expect learning to be on their terms and to encompass today's technology (Carlson, 2005). Millennials are more interested in interactive media and controlling their learning than past generations (Berk, 2009). They may not be interested in sitting passively in a lecture style classroom and taking notes (Carlson, 2005). Millennials often prefer active learning and expect immediate feedback (Nelson & Litzenberg, 2011). In response to the millennials needs, Nelson and Litzenberg (2011) utilize a personal response system (PSR) in their classrooms. This technology allows students to engage in the learning by providing answers to proposed questions and then receive immediate feedback (Nelson & Litzenberg, 2011). However, there is a substantial monetary cost associated with implementing PSR or other clicker systems (Nelson & Litzenberg, 2011).

In order to encourage active learning in the classroom and engage students through interactive media, an online text message polling system was incorporated into a course. *Polleverywhere* was the audience response system chosen because it is easily accessed through the Internet and students only needed a cell phone capable of sending text messages in order to engage in the activity.

How it works/methodology/program phases/steps

The following steps were taken to create the texting poll through *polleverywhere.com* (2011):

1. Once on the *polleverywhere* website, you may choose to continue without an account, register for a free account, or you may purchase a subscription account. A free account will allow for up to 30 responses. If more responses are needed, a subscription account would be needed.
2. Click on create a new poll.
3. Type your multiple choice or open-ended questions into the text box and click on the preview icon and then click continue.
4. Follow the provided instructions to download the question into a PowerPoint slide.
5. Insert the slide in to your PowerPoint presentation (see Figure 1).
6. Conduct you class session as you would normally do. When you reach the point of your class that you wish to ask the question, instruct students to take out their cell phones and follow the instructions on the screen.
7. Student responses will appear instantly. You can use student response to give students immediate feedback as well as to provide feedback for yourself.

Figure 1. Screen Capture of a Texting Poll on PowerPoint

Results to date/implications

The audience response system *polleverywhere* has been utilized in an undergraduate course since the Fall 2010 semester. Student feedback has been positive and has indicated that students welcome the opportunity to use cell phone technology in the classroom. Students have indicated that they are more likely to answer questions through a texting poll because it feels less threatening than answering the question out loud in front of the entire class. Many students have chosen to incorporate texting polls into their required presentations for the course. *Polleverywhere* seems to be an effective way to engage the students and encourage active learning.

Future plans/advice to others

Future Plans

Polleverywhere texting polls will be incorporated into additional PowerPoint's to engage students and to encourage active learning. Students will also have the opportunity to create and propose questions about the content or assignments through *Polleverywhere.com*. This will give students some control over what is discussed in class.

Advice to Others

Start by creating and implementing 1 texting poll in the class. Then talk to your students about their experience and decide if this technology is appropriate for students in the class. If texting polls enhance the educational quality of your class, increase the amount of texting polls that you use overtime.

Costs/resources needed

To utilize *polleverywhere* texting polls, minimal resources and costs are needed. Internet access and PowerPoint software is needed to display the poll. Students will need to have cell phones with texting capabilities. Free subscriptions are available, but the subscription is limited and only works for an audience of up to 30 students. Options to poll larger audiences can be purchased for an additional monthly fee that increases based on the size of the audience. There is a $15.00 monthly fee for an audience of up to 50 students. An individual instructor plan may be purchased for $699.00 per year and offers more options such as grade reporting and response moderation.

References

Berk, R. A. (2009). Teaching strategies for the net generation. *Transformative Dialogues: Teaching & Learning Journal, 3*(2), 1-24.

Carlson, S. (2005, October 7). The net generation goes to college. *The Chronicle of Higher Education,* pp. A34.

Nelson, A. G., & Litzenberg, K. K. (2011, June & July). *Enhancing learning in the classroom–One click@ a time.* Paper presented at the meeting of Canadian Agricultural Economics Society/Western Agricultural Economics Association, Banff, Alberta.

Polleverywhere.com. (2011). Retrieved from http://www.polleverywhere.com

Poster Type (Innovative Idea)

Using YouTube® as a Medium for Teaching Self-Reflection

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Using YouTube® as a Medium for Teaching Self-Reflection

Introduction

Engaging students in reflection to promote self-regulated learning is a goal of many university faculty members (Stefani, Clarke, & Littlejohn, 2000). Three major characteristics of self-regulated learning described by Zimmerman (1990) include the use of self-regulated learning strategies, responsiveness to self-oriented feedback about learning progress, and interdependent motivational processes. The metacognitive nature of reflection allows students to critically monitor and evaluate their progress towards achieving learning goals (Schraw, Crippen, & Hartley, 2006). Self-reflection should allow preservice teachers to initiate a cyclic process in which they monitor their teaching performance, develop a plan for improvement, and implement changes. However, most students do not fully self-regulate their learning (Zimmerman, 2000; Pintrich, 2000). Shinn and Briers (2009) stated "pausing to reflect and learn is not a naturally occurring part of our American DNA" (p. 1).

Just as coaches utilize video playback to help professional athletes review past performances to develop improvements for the next competition, so can teacher educators help pre-service teachers with improving their teaching. The recording of pre-service teacher microteaching to engage students in self-reflection is not a new concept for teacher educators. Krysher (2009) stated "it is now a common practice in many institutions for pre-service teachers to reflect upon their experiences by reviewing a video of themselves" (p. 1). However, variety of audio-video media formats used in recording these teaching experiences, expense of media used, and availability of playback equipment have been difficult hurdles for students to maneuver. Further, the available means of utilizing these recordings has changed with the advancement of social websites such as YouTube®. Warner and Thoron (2009) argue that the incorporation of technologies familiar to students should be linked to meaningful learning objectives.

Purpose

The purpose of this poster is to share our experiences in implementing the use of YouTube® as an instructional tool to develop preservice teachers' reflection skills at [Land Grant University].

How it Works / Methodology

During the methods course prior to student teaching, preservice agricultural education teachers were required to prepare lesson plans and deliver segments of these lessons to their peers. These teaching segments, also known as microteaching, were recorded using a digital video camera so students could view their own teaching and complete a self-reflection exercise. To facilitate the viewing of these teaching segments, the clips were uploaded into a private account on YouTube®. These video clips were not published for public access on YouTube® but were held within the private account. A private access URL for each clip was then provided to each student to access their video clips and complete a self-reflection exercise. The document for self reflection was

emailed to the student along with the URL and students emailed the completed self reflection document back to the instructor.

Results to Date / Implications

Self-reflection forms were required from each student for each teaching segment. Over the semester, the depth of self-reflection improved. At first, the comments related to appearance, voice, and gestures. However, toward the end of the semester the reflections focused on student engagement and implementation of teaching strategies. Several students were so pleased with the video clips that they included them in their online teaching portfolios. Because of their familiarity with such media, they were easily able to take the clips from YouTube® and import them into their portfolios.

Student feedback at the conclusion of the course was very positive. One student said, "I appreciated that the camera and YouTube clip could help me monitor my teaching. My favorite part of using YouTube is that the clips are private. Teaching style is something very personal. But because it's so personal, I want to be the best at it that I can and the YouTube video helped aid me in self reflecting on ways to improve." Another student remarked, "I felt that recording our microteachings for self reflection was invaluable. Teachers are constantly needing to self reflect on their teaching - what a great opportunity to do it before you get into the classroom! We were taught to self reflect and successfully critique our teaching through the microteaching recordings. Through the video recordings in my methods class, I was able to create a video to be placed into my electronic portfolio that showcases my teaching styles."

Future Plans / Advice to Others

Based on the feedback from the students and the depth of their self-reflection, we plan to continue using the technology as a means for students to view clips of their teaching and complete the self-reflection exercises. We plan to expand this to other courses in which the students are completing presentations. It is recommended that equipment be used that facilitates efficient transfer of the video clips to YouTube®. The equipment we used is summarized in the next section. It is also recommended that this be used for more than one teaching experience so students can shift their reflection away from personal characteristics and focus on their teaching. One idea for future implementation is the use of a final reflection assignment through which students can compare their teaching experiences throughout the semester and reflect upon their growth. The ability to archive the video clips on YouTube® so students can access these at a later date and view them in sequence will help facilitate this final reflection.

Costs / Resources Needed

The costs involved with this project included the digital video camera and the computer used to upload the clips. We used a Sony Handycam® 240 Gigabyte Hard Drive Camcorder (approximate cost $1,200) to record the microteaching and used iMovie® software on an iMac® computer (approximate cost $1,500) to upload the clips

onto YouTube®. Transferring the clips to the computer was at or near real time and all clips could be transferred at one time along the seamless integration of YouTube® with iMovie® minimizing time and labor costs. The account on YouTube® is free and because everything is digital, there are no costs for consumables such as video tapes, DVDs, or memory cards and no issues with finding playback equipment.

References

Krysher, S. (2009). Effective and efficient technology in 2008 for pre-service teacher reflection. *Proceedings of the American Association for Agricultural Education Research Conference*. Louisville KY. Retrieved from http://www.aaaeonline.org/files/national_09/posters/Effective_and_Efficient.pdf

Pintrich, P. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-Regulation* (pp. 452-501). San Diego, CA: Academic Press.

Schraw, G., Crippen, K. J., & Hartly, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. *Research in Science Education, 36*, 111-139. doi:10.1007/s11165-005-3917-8

Shinn, G. C., & Briers, G. E. (2009). Engaged reflection: A tool and a technique to enhance learning and improve teaching. *Proceedings of the American Association for Agricultural Education Research Conference*. Louisville KY. Retrieved from http://www.aaaeonline.org/files/national_09/posters/Engaged_Reflection.pdf

Stefani, L. A. J., Clarke, J., & Littlejohn, A. H. (2000). Developing a student-centered approach to reflective learning. *Innovations in Education and Training International, 37*(2), 163-171. Retrieved from http://www.informaworld.com/smpp/title~content=t713685495

Warner, A. J., & Thoron, A. C. (2009). Incorporating technology, YouTube®, and learning in the agriscience classroom. *Proceedings of the American Association for Agricultural Education Research Conference*. Louisville KY. Retrieved from http://www.aaaeonline.org/files/national_09/posters/Incorporating_Technology.pdf

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*, 3-17. doi:10.1207/s15326985ep2501_2

Zimmerman, B. J. (2000). Attaining self-regulated learning: A social-cognitive perspective. In In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-Regulation* (pp. 13-39). San Diego, CA: Academic Press.

Innovative Idea

Utilization of a Replication of the 2011 [State] State FFA Agricultural Mechanics Career Development Event to Determine Selected Students' Levels of Agricultural Mechanics Knowledge and Skills

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Utilization of a Replication of the 2011 [State] State FFA Agricultural Mechanics Career Development Event to Determine Selected Students' Levels of Agricultural Mechanics Knowledge and Skills

Introduction & Need for Innovation

Agricultural mechanics competency has been deemed by program stakeholders to be an important area of professional development for agricultural educators (Slusher, Robinson, & Edwards, 2011). The flexibility and breadth of the agricultural mechanics curriculum can provide numerous learning opportunities for students (Parr, Edwards, & Leising, 2009). As such, it is expected that agriculture teachers are able to properly manage and conduct agricultural mechanics curricula so as to maximize learning potential and student productivity (McKim & Saucier, 2011). What is more, research (Saucier, McKim, & Tummons, 2011) has revealed a specific list of agricultural mechanics competencies, knowledge sets, and skills that agricultural educators should possess.

Due to its historical inclusion in the secondary agricultural education program, as well as industry demands for some mechanical knowledge (Slusher, Robinson, & Edwards, 2011), pre-service agriculture teacher preparation curricula often include coursework in agricultural mechanics (Burris, Robinson, & Terry, 2005). However, despite this coursework inclusion, many pre-service agriculture teachers only feel "somewhat prepared" (Burris, Robinson, & Terry, 2005, p. 23) in selected areas of agricultural mechanics. As a result, it is conceivable that many agriculture teachers may not be knowledgeable in a large quantity of agricultural mechanics skills and thus may be unprepared to utilize secondary agricultural mechanics coursework to the fullest potential for both the students and the program. As a result of this idea, the research question that arose at [University] University was this: Are selected agriculture students enrolled in the Agricultural Structure and Metal Fabrication Technology (CTCT 4140) course at [University] University competent and knowledgeable in a variety of agricultural mechanics topics?

The CTCT 4140 course at [University] University prepares students in a variety of agricultural mechanics topics ([University] University, 2011). This course emphasizes practical, hands-on situations in order to teach selected agricultural mechanics topics (G. Patterson, Personal communication, October 25, 2011). As a result, it is desired that these students will possibly develop a wide knowledge in agricultural mechanics. However, what could serve as an appropriate testing mechanism in order to gauge selected students agricultural mechanics knowledge and skills within selected areas of agricultural mechanics?

How it Works

Researchers at [University] University posited that a replication of the 2011 [State] State FFA Agricultural Mechanics Career Development Event (CDE) could serve

as a testing regimen to discover the agricultural mechanics knowledge and skills of selected university-level agriculture students. To implement the testing mechanism, the researchers contacted the [State] State FFA Agricultural Mechanics CDE contest superintendent and requested documentation of all materials from the 2011 contest. These materials included a one hundred question written examination, individual skill development activities (welding, electrical circuit assembly, soil evaluation, plumbing, and concrete calculation), and a team activity (surveying and acreage calculation). To determine the skills and knowledge base of each student, each activity was completed on an individual basis.

A regularly-scheduled laboratory session was selected in which to conduct this evaluation activity. Students were informed of what activities were to be conducted and that no activity score would count as course credit. Thus, participation in any and all activities was completely voluntary. The researchers set up individual stations at which students could conduct the seven activities individually. After the conclusion of the replicated CDE event, the researchers collected all the activity sheets, graded them for accuracy, and later informed the students of their performance.

Results to Date / Implications

Several students participated in this replication of the 2011 [State] State FFA Agricultural Mechanics CDE. The participating students were asked about the arrangement of the event, its relevance to the established CTCT 4140 coursework, and their ideas concerning the further implementation of many of the activities into the course. Overall, the students felt that the testing regimen was a fair evaluation of their agricultural mechanics skills and knowledge bases. It was noted by the researchers that these students often also felt that since this contest activity material is directly aligned with secondary agricultural mechanics curricula ([State] FFA Association, 2009), additional time should be spent on many of these topics within the CTCT 4140 course. Also, these students tended to favor additional undergraduate coursework in agricultural mechanics during their enrollment at [University] University.

Future Plans / Advice to Others

The researchers recommend that agricultural education faculty members at other universities evaluate their state's FFA Agricultural Mechanics CDE and determine its value as a testing regimen. To do so, it is advisable that faculty members contact their state's Agricultural Mechanics CDE contest superintendent and request documentation of the CDE materials. Upon receipt, the materials should be evaluated to determine congruence with current agricultural mechanics coursework. If possible, such a regimen should be conducted during a selected agricultural mechanics course. The researchers at [University] University found that this regimen was successful in allowing students to practice selected agricultural mechanics skills as well as participate in a replicated Agricultural Mechanics CDE. As a result, these students may be better prepared to train secondary students to participate in this CDE.

Costs

The major costs incurred throughout this replication activity included costs of materials for the following activities: welding, soils, electrical circuit assembly, and plumbing. The printing of the papers for the selected contest activities incurred only minimal costs. It should be noted that some of the materials needed for this replication were already found within the agricultural mechanics laboratory at [University] University.

References

[State] FFA Association. (2009, September). Agricultural mechanics career development event rules and regulations handbook. Retrieved from http://www.[state]ffa.org/Forms_Applications/Agricultural%20Mechanics%20CDE.pdf

[University] University. (2011, June). Courses of instruction. In *[University] Bulletin 2011-2012*. Retrieved from http://www.[university].edu/student_info/bulletin/courses.pdf

Burris, S., Robinson, J. S., & Terry, Jr., R. (2005). Preparation of pre-service teachers in agricultural mechanics. *Journal of Agricultural Education, 46*(3), 23-34. doi: 10.5032/jae.2005.03023

McKim, B. R., & Saucier, P. R. (2011). Agricultural mechanics laboratory professional development needs of Wyoming secondary agriculture teachers. *Journal of Agricultural Education, 52*(3), 75-86. doi: 10.5032/jae.2011.03075

Parr, B. A., Edwards, M. C., & Leising, J. G. (2009). Selected effects of a curriculum integration intervention on the mathematics performance of secondary students enrolled in an agricultural power and technology course: An experimental study. *Journal of Agricultural Education, 50*(1), 57-69. doi: 10.5032/jae.2009.01057

Saucier, P. R., McKim, B. R., & Tummons, J. D. (2011). Essential agricultural mechanics skills for beginning agricultural educators: A Delphi approach. *Proceedings from the 2011 Southern Region Conference of the American Association for Agricultural Education*. Corpus Christi, TX: 67-70.

Slusher, W. L., Robinson, J. S., & Edwards, M. C. (2011). Assessing the animal science technical skills needed by secondary agricultural education graduates for employment in the animal industries: A modified Delphi study. *Journal of Agricultural Education, 52*(2), 95-106. doi: 10.5032/jae.2011.02095

Utilizing the Agricultural Experience Tracker as an Experiential Program Planning and Chapter Management Tool

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Utilizing the Agricultural Experience Tracker as an Experiential Program Planning and Chapter Management Tool

Need for Innovation

Current economic climates around the world foreshadow an increased demand in accountability in all facets of government. Priorities two and three of the National Research Agenda (2011) serve as the guide for this poster. Priority two states "education, and outreach activities must continually change to address the new challenges and opportunities brought about by rapidly advancing technologies" (NRA, (2011), p. 8). Priority three addresses preparing, promoting, and retaining a professional workforce (NRA, 2011). In a study by Roberts and Dyer (2004), over 96% of the respondents reported that agricultural science teachers should effectively manage, operate, and evaluate an agricultural science program. As teacher educators work to prepare students to be equipped for an uncertain future, attention should be given to the signs of change evident in the world. As proponents and perpetuators of the three circle model for agricultural education, teacher preparation programs should increase the preparation given to students in regards to program planning and chapter management.

Numerous students aspire to become agricultural educators but lack comprehensive programmatic knowledge of facilitating and planning a total agricultural education program. There should be a concerted effort across agricultural science teacher preparation programs to train pre-service teachers to be better prepared to manage a program of activities, calendar of events, and program budgets. Utilizing the Agricultural Experience Tracker (AET) allows students to fully immerse themselves in a chapter management system as well as learn how to quantify the impact and outcomes of their program. Furthermore, the AET, as a program planning and chapter management tool, is one of the few resources all teacher preparation programs across the nation can incorporate easily, inexpensively, and collaboratively.

How it works/methodology

Currently, all students involved in the *Facilitating a Complete Ag. Science Program* course, prior to student teaching at [University], are assigned a username and password in the Agricultural Experience Tracker (AET) teacher site. This has been done for four consecutive semesters. Students are required to complete an autonomous, pre-made record book scenario in an effort to increase the exposure pre-service teachers have to Supervised Agriculture Experience (SAE). While this approach works well for allowing students to learn about the student side of record keeping and SAE through simulation, it does little to teach the students about program planning and chapter management from a teacher's perspective. In an effort to expound upon prior knowledge and foster a more complete understanding of the responsibilities a student will soon assume as a teacher, they are now given the role of a "teacher" in the AET. In an effort to increase exposure to all the facets of program management, fictitious, yet not unrealistic chapter scenarios are assigned to students.

Students are randomly assigned to five different learning communities and work together to develop a program of activities, program calendar, program budget and program economic impact report. The learning communities are then assigned teacher accounts within the AET so they can learn to work on the total program management aspect of an agricultural science program, experientially, before their first year of teaching.

While there are other methods to accomplish the essential activities of local program success, utilizing the AET allows the faculty at [University] to view student progress anytime from anywhere that has an Internet connection and give "real world" experiences prior to teaching. It also reinforces to the students, who are role playing a FFA Advisor/agricultural science teacher, the efficiency and flexibility an online chapter management tool can bring into an agricultural education program. Students are required to collaborate within their assigned learning communities to utilize the AET to prepare a year long program of activities in accordance with National Chapter Award Application guidelines, develop a program budget, create student groups, send messages to "students", and produce/ and publish an activity calendar. Students also generate economic impact statements in an effort to reinforce the importance of SAE and the value agricultural science programs can have in a community. Utilizing the AET in this manner also enables the students to be prepared to work at student teaching sites that already utilize the AET for chapter management, program planning and record keeping.

Results to date/Implications

Eighty-six students (four semesters) have been through the program management aspect of the AET to date. Once students learn the flexibility and utility of the AET there is evidence of an increase in their likelihood of adoption. When the students are sent out to student teach, they realize how prepared they are for chapter management, program planning, SAE record keeping, program of activities, and calendars. Returning student teachers often report learning about the teacher side and student side of AET as one of the most valuable and practical aspects of their curriculum. There have been some cooperating teacher sites which have adopted the program management aspect of the AET once student teachers explain how it works. Student teachers express excitement about being well prepared and helpful during their student teaching experience. Student teachers also appreciate that many programs in [State] have adopted the AET and they feel as though they have an advantage when entering the work force.

Future Plans

Efforts are underway to assign students a "student" AET account as they take the introductory agricultural education course at [University] to allow them to keep records of their experiences in college for at least a year and a half to allow more time to devote to the teacher side of the AET in the Ag Science Program Facilitation course. Other plans are to add exposure to the program management aspect of the AET for a total of at least two semesters. In the near future, students will learn how to manage State Degree, American Degree and National Chapter Applications efficiently as a result of their immersion in the AET. Collegiate FFA will use the AET in an effort to continue to foster authentic learning experiences for pre-service teachers and increase American Degree applications for [State].

Cost of the Program

The AET has agreed to provide five separate "chapters" to aid in allowing students to work as "teachers" for total program management experience; there was no cost. However, large amounts of time were required to prepare the initial Ag Ed Program scenarios. It has been well worth the time. All teacher preparation programs can receive the AET, for free, to help train teachers.

References

Doerfert, D. L. (Ed.) (2011). *National research agenda. American Association for Agricultural Education's research priority areas for 2011-2015.* Lubbock, TX: Texas Tech University Department of Agricultural Education and Communications.

Roberts, T. G., & Dyer, J. E. (2004). Characteristics of effective agriculture teachers. *Journal of Agricultural Education*, *45*(4), 88-95. DOI:10.5032/jae.2004.04082.

What Keeps Them from Coming?
Culturally and Linguistically Appropriate Methods for Understanding the Challenges and Limitations Faced by Immigrant and Refugee Youth Desiring to Pursue Education and Careers in Agriculture-related fields

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What Keeps Them from Coming? Culturally and Linguistically Appropriate Methods for Understanding the Challenges and Limitations Faced by Immigrant and Refugee Youth Desiring to Pursue Education and Careers in Agriculture-related fields

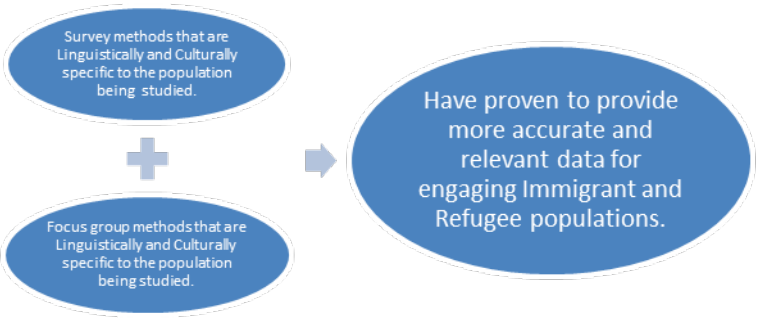
Introduction/Need for Innovation or Idea

AAAE National Research Agenda Priority 4 calls for "examining the role of diversity and multiple perspectives in meaningful learning across agricultural education contexts" (Doerfert, 2011). In 2000, The National Council for Agricultural Education stated that only 6% of the overall high school population successfully completed coursework in agriculture. There were no minority student numbers reported. If current trends continue, the population of the United States will rise to 438 million in 2050, and 82% of the increase will be due to immigrants arriving and their U.S.-born descendants. And the non-Hispanic white population will increase more slowly; resulting in 47% white population (the minority) (Passel & Cohn, 2008).

For decades the agricultural community has tried to find ways to encourage ethnic minority youth to engage in coursework in agriculture (Jones & Larke, 2001). The "role of significant others and specific job-related factors" are reasons cited in a study by Jones and Larke that Hispanic and African Americans chose to pursue agricultural education in college. They went on to state that "those charged with perpetuating the United States' leadership role in the area of agriculture-related fields should continue to find ways to enhance participation of ethnic minority groups, which are expected to increase in percentage in the next decade" (Jones & Larke, 2001). Recently Faulker et. al. discovered "personal factors, parents, and family members" as most influential reasons for attitudes, educational, and career choices of Food and Agricultural Sciences ethnic minority students (2010). These studies continue to influence our knowledge of how to engage ethnic minority populations. This poster will provide innovative methods to study the challenges and limitations faced by immigrant and refugee youth who desire to pursue education and careers in agriculture-related fields.

Methodology

The authors posit that in order to glean the most accurate information about the challenges and limitations faced by immigrant and refugee youth, studies must be conducted in culturally and linguistically appropriate methods and must be specific to the population being studied. Otherwise the data collected could be focused on the researcher's perspective rather than the reality of subjects being studied. A term which Bennett calls ethnocentric (Bennett, 1986).



Results to date

Both authors have conducted research that supports the proposed method. Fagan et. al., conducted a Qualitative study whose main objective was to better understand the needs of immigrant and refugee women in Lincoln, Nebraska, in order to better meet their healthcare needs as their organization enhanced their women's health initiative. Group interviews were conducted with 32 women from three of the fastest growing populations: Middle East, Asian and Hispanic. The participants ranged in age from 15 - 60+. They had all had recent experiences with a health care entity in our community. The majority were Limited English Proficient individuals. Qualified interpreters selected by the community center Executive Directors, were present to facilitate the interview process. Each group interview was held in their respective community center led by a facilitator who had insight into the community. The researchers, while highly culturally sensitive and warm in welcoming participants, remained in the background during each focus group. Verbatim transcripts from the interviews were analyzed for common themes. The resulting themes and sub-themes enabled the health system to develop a Women's and Children's Health Center that is innovative and better suited to meeting the needs of women and children from all walks of life (Fagan, Hames, Hartman and Selig, 2006).

In another study, Matkin identified that cultural sensitivity of leaders impacts their employees' level of engagement and enhanced organizational outcomes (Matkin, 2005). Together the two studies provide evidence that supports the theory that culture and language are important factors for engaging the immigrant and refugee population.

Future Plans

Any Agriculture program in a part of the country that has experienced a rapid and vast growth in their immigrant and refugee populations can adopt this type of approach learning about the challenges and limitations of the new population. Below are some key insights for other researchers:

Step 1 – Be willing to establish strong and meaningful relationships with key leaders in the immigrant and refugee communities.

Step 2 – When conducting the study, provide some general guidelines (what you want to understand, and who you'd like to study by when) but leave the process to the community leaders (i.e. location, dates, how to run the focus group, participants).

Step 3 – Learn about the culture and history of the immigrants and refugees, learn a few words in their language, but remain in the background and ensure you follow the cultural "rules" for showing respect before, during, and after the study.

This type of study requires us as researchers and educators to be willing to put aside our own beliefs about how to best reach a population. If we don't, we run the risk of creating ethnocentric research studies and thus gleaning information that will have

limited success in the long-run. Gaining the trust of immigrants and refugees who have fled their homeland, is difficult at best; by collaborating with community centers and trusting them with creating the best setting and obtaining the best participants, we will be more successful in not only building relationships, but we will have access to information that very few researchers have been able to obtain.

Costs/resources needed

Direct Cost	Donation to Immigrant Community Facilitator and Interpreter Fees *(Fees paid by Fagan et al during 2006 study)*	*$500 each center* *$750 Facilitator* *$210 Interpreter*
Indirect Costs	Researchers' time at each center and for analyzing data *(Hours spent by Fagan et al during 2006 study)*	*70 hours Total*
Resources	Culturally/Linguistically Congruent Facilitator, Recording Device, Transcription and Data Analysis system	Varies

References

Bennett, M. J. (1986). Towards Ethnorelativism: A developmental model of intercultural sensitivity. In M. Paige (Ed.), Cross cultural orientation (pp. 27-69). Blue Ridge Summit: University Press of America.

Fagan H., Hames I., Hartman D., Selig C. (2006, October). Understanding the Healthcare Needs and Challenges of Ethnic Minority Women in Our Community. Poster session presented at the biannual Diversity Rx Conference, Seattle, WA.

Faulker P., Baggett C., Bowen C., Bowen B. (2010). Attitudes, Educational, and Career Choices of Food and Agricultural Sciences Institute Participants. Journal of Agricultural Education. Vol. 50:1. Obtained from http://www.jae-online.org/vol-50-no-1-2009/71-paula-e-faulker-connie-d-baggett-cathy-f-bowen-a-blannie-e-bowen.html on 2/12/12.

Jones W., Larke A. (2001). Factors Influencing Career Choice of African American and Hispanic Graduates of Land-Grant College of Agriculture. Journal of Agricultural Education. Vol .42:1 pp39-49.

Matkin G. (2005). Demographic similarity/difference, intercultural sensitivity, and leader-member exchange: A multilevel analysis. Obtained from University of Nebraska - Lincoln http://digitalcommons.unl.edu/dissertations/AAI3174543 on 2/11/2012.

National Council for Agricultural Education (2000). Understanding agriculture new directions for education. Washington, DC: National Academy Press.

Passel J., Cohn D. (2008). U.S. Population Projections: 2005–2050. Pew Research Center. Obtained from http://www.pewhispanic.org/files/reports/85.pdf on 1/20/2012.