

*Proceedings of the
2012
American Association for Agricultural Education
Research Conference*

Volume 39



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Asheville, North Carolina*

Edited by:

*Rebecca G. Lawver and Brian K. Warnick
Utah State University
Logan, Utah*



***Proceedings of the
2012 American Association for Agricultural Education
Research Conference***

It is our pleasure to present the *Proceedings of the 39th Annual American Association for Agricultural Education Research Conference*. The proceedings are a result of 60 paper presentations that were shared at the AAAE Conference on May 17-18, 2012 in Asheville, North Carolina

The AAAE Protocol Guidelines for Conference Paper Selection, Presentations and Awards established and adopted in 2009 were followed in the selection of the manuscripts. The submission and review process of research papers was conducted using the online FastTrack system. There were 128 papers submitted by the January 13th deadline. Manuscripts were peer-reviewed using a “blind review” process. The review process involved [171 reviewers](#) representing 55 universities. Each manuscript was assigned to 3 reviewers. Additional reviewers were assigned as needed, and the review process occurred over 51 days. All papers were ranked based on the overall recommendation from reviewers (Item 56 on the review form). In sum, 60 of the 128 manuscripts were accepted for presentation for an acceptance rate of 46.9%.

Each year, the research conference builds on the work and traditions established by [previous conference chairs](#). We are grateful to them for leading the way in this endeavor. Many hours have been invested in the conference and we want to thank the authors for submitting and revising the manuscripts in a timely manner. We would also like to especially thank the [reviewers](#) for their countless hours of reviewing manuscripts. Moreover, special thanks to the discussants, facilitators, and outstanding paper judges for their help with the conference sessions. We would also like to express our gratitude to Dr. Greg Miller and Dr. Elizabeth Wilson for providing leadership in planning the conference, and to Dr. John Ricketts for his tremendous assistance in coordinating the review process.

Respectfully submitted,

Becki Lawver and Brian Warnick
2012 AAAE Research Conference Chairs

Previous Conference Chairs/Proceedings Editors

Vol.	Year	Chair(s)/Editor(s)	Institution	Location
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2	1975	Hollie Thomas	Florida State University	Anaheim, CA
3	1976	Glen Shinn	Mississippi State University	Houston, TX
4	1977	William Richardson	Purdue University	Atlantic City, NJ
5	1978	Bennie Byler	Mississippi State University	Dallas, TX
6	1979	Ronald Brown	Mississippi State University	Anaheim, CA
7	1980	L. H. Newcomb	The Ohio State University	New Orleans, LA
8	1981	Maynard Iverson	North Carolina State University	Atlanta, GA
9	1982	Dale Oliver	Virginia Tech University	St. Louis, MO
10	1983	Paul R. Vaughn	New Mexico State University	Anaheim, CA
11	1984	Jimmy Cheek	University of Florida	New Orleans, LA
12	1985	Bob Stewart	University of Missouri	Atlanta, GA
13	1986	Alan A. Kahler	Iowa State University	Dallas, TX
14	1987	Alfred J. Mannebach	University of Connecticut	Las Vegas, NV
15	1988	Edgar P. Yoder	Pennsylvania State University	St. Louis, MO
16	1989	Michael F. Burnett	Louisiana State University	Orlando, FL
17	1990	Robert A. Martin	Iowa State University	Cincinnati, OH
18	1991	Larry R. Arrington	University of Florida	Los Angeles, CA
19	1992	John P. Mundt	University of Idaho	St. Louis, MO
20	1993	Dennis Scanlon Thomas H. Bruening	Pennsylvania State University	Nashville, TN
21	1994	David E. Lawver Robert Terry, Jr.	Texas Tech University Texas A&M University	Dallas, TX
22	1995	Leon G. Schumacher Robert J. Birkenholz	University of Missouri	Denver, CO
23	1996	George W. Wardlow Donald M. Johnson	University of Arkansas	Cincinnati, OH
24	1997	James J. Connors Tim H. Murphy	University of Idaho Texas A&M University	Las Vegas, NV
25	1998	Gary Moore James Flowers	North Carolina State University	New Orleans, LA
26	1999	Ricky Telg Tracy Irani John Ryder	University of Florida	Orlando, FL
27	2000	Greg Miller	Iowa State University	San Diego, CA
28	2001	Joe W. Kotrlik Michael F. Burnett	Louisiana State University	New Orleans, LA
29	2002	Michael K. Swan Marty Frick	Washington State University Montana State University	Las Vegas, NV
30	2003	Jamie Cano Larry E. Miller	The Ohio State University	Orlando, FL

Previous Conference Chairs/Proceedings Editors (continued)

Vol.	Year	Chair(s)/Editor(s)	Institution	Location
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32	2005	Eddie A. Moore David Krueger	Michigan State University	San Antonio, TX
33	2006	Kirk Swortzel Jacquelyn Deeds	Mississippi State University	Charlotte, NC
34	2007	Gary E. Briers T. Grady Roberts	Texas A&M University	Minneapolis, MN
35	2008	Edward A. Franklin	University of Arizona	Reno, NV
36	2009	Todd Brashears Steve Frazee	Texas Tech University	Louisville, KY
37	2010	Neil A. Knobloch	Purdue University	Omaha, NE
38	2011	Rebecca G. Lawver Brian K. Warnick	Utah State University	Coeur d'Alene, ID
39	2012	Rebecca G. Lawver Brian K. Warnick	Utah State University	Asheville, NC

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Harry Boone	West Virginia University
Andrew Baker	Western Illinois University

Research Presentations

Thursday, May 17, 2:30-4:00 p.m.

Session A – *Outcomes and Impacts of Agricultural Education Curriculum Programs*

Discussant: Kirk Swortzel, Mississippi State University

Facilitator: Steven “Boot” Chumbley, Eastern New Mexico University

The CASE Curriculum and Science Teaching Efficacy: A One Year Follow-up Study

Jonathan D. Ulmer, Texas Tech University

Jonathan J. Velez, Oregon State University

Phillip A. Witt, Texas Tech University

Gregory W. Thompson, Oregon State University

Misty D. Lambert, Oregon State University

Scott Burris, Texas Tech University

Utilization of a High Stakes High School Graduation Exam to Assess the Impact of Agricultural Education: A Measure of Curriculum Integration

J. Brock Nolin, Tallassee City Schools

Brian A. Parr, Auburn University

J. Eric Sewell, Auburn University

An Examination of the Impact of CASE on Students

Jonathan J. Velez, Oregon State University

Misty D. Lambert, Oregon State University

Kristopher M. Elliott, Oregon State University

Teachers’ Speak About CASE

Misty D. Lambert, Oregon State University

Jonathan J. Velez, Oregon State University

Kristopher Elliott, Oregon State University

Session B – *Diversity and Multiple Perspectives in Meaningful Learning*

Discussant: Justin Killingsworth, Arkansas Tech University

Facilitator: Debby Boone, West Virginia University

The Role of Rosenwald Schools in Agricultural Education for African Americans

Rebecca Fisher, North Carolina State University

Gary Moore, North Carolina State University

Joseph Long, North Carolina State University

Funding Agricultural Education for African American Students in the American South: The Slater, Rosenwald, and Jeanes Funds

D. Barry Croom, North Carolina State University
Rebecca A. Fisher, North Carolina State University
Kathryn A. Murray, North Carolina State University

Teacher Preparation for the Culturally Different: The Next Chapter

Jonathan Tubbs, University of Kentucky
Bryan Hains, University of Kentucky
Stacy Vincent, University of Kentucky

Assessing the Agriculture Teacher Workforce in New England

Cassandra K. Uricchio, North Carolina State University
Gary E. Moore, North Carolina State University
D. Barry Croom, North Carolina State University
Elizabeth B. Wilson, North Carolina State University
Shannon E. Pratt-Phillips, North Carolina State University

Session C – *Experiential Learning: Learning to Do*

Discussant: Daniel Foster, Penn State University
Facilitator: Randy Adams, University of Kentucky

Effects of the Order of Abstraction and Type of Reflection on Content Knowledge When Teaching Experientially: An Exploratory Experiment

Marshall A. Baker, Oklahoma State University
Nicholas R. Brown, Oklahoma State University
J. Joey Blackburn, Oklahoma State University
J. Shane Robinson, Oklahoma State University

Teachers' Perceptions Regarding Experiential Learning Attributes in Agricultural Laboratories

Catherine W. Shoulders, University of Florida
Jessica M. Blythe, University of Florida
Brian E. Myers, University of Florida

Experiential Learning through Visual Communications Curriculum in Secondary Schools

Kristin M Pennington, University of Arkansas
Leslie D. Edgar, University of Arkansas
Don W. Edgar, University of Arkansas

Students Interacting with Animals: A Case study of Animal Interaction in School-based Agricultural Education

Michael Martin, University of Missouri
John Tummons, University of Missouri
Will Bird, University of Missouri
Anna Henry, University of Missouri

Session D – *Experiential Learning: Doing to Learn*

Discussant: Andy Baker, Western Illinois University

Facilitator: Ryan Saucier, Texas State University

An Assessment of Students' Perceptions Toward Factors Influencing Supervised Agricultural Experience Participation

Lauren J. Lewis, Texas A&M University

John Rayfield, Texas A&M University

Lori Moore, Texas A&M University

Supervised Agricultural Experience: An Examination of Student Knowledge and Participation

Lauren J. Lewis, Texas A&M University

John Rayfield, Texas A&M University

Lori Moore, Texas A&M University

Economic Impact of Agricultural Mechanics Competition Projects in Texas and Factors that Predict Chapter Investment Value

Roger Hanagriff, Texas A&M University

John Rayfield, Texas A&M University

Gary Briers, Texas A&M University

Tim Murphy, Texas A&M University

Doug Kingman, Sam Houston State University

An Ethnographic Study of a Post-Secondary High-Impact Field Experience: Understanding Experiential Learning on the Road to the National FFA Convention

Billy R. McKim, Texas A&M University

Holli R. Leggette, Texas A&M University

Debbie W. Prince, Texas A&M University

Caroline K. Black, Texas A&M University

Shannon G. Lawrence, Texas A&M University

Session E – *Research Methods and Post-secondary Experience*

Discussant: Michael Pate, Utah State University

Facilitator: Courtney Meyers, Texas Tech University

Quantitative Theoretical and Conceptual Framework Use in Agricultural Education Research

Tracy Kitchel, University of Missouri

Anna L. Henry, University of Missouri

The Qualitative Exploration of First Year Experiences in the College of Agriculture

Keyana Ellis, Virginia Tech University

Eric Kaufman, Virginia Tech University

Rick Rudd, Virginia Tech University

How Perception of Evaluation Use Improves Accountability Efforts: A National View

Alexa J. Lamm, University of Florida

Glenn D. Israel, University of Florida

The Relationship between University Involvement and Satisfaction Level of Community College Transfer Students in Agriculture and Natural Resources

Rachel Bobbitt, Texas Tech University

Cindy Akers, Texas Tech University

Kim Peters, Texas Tech University

Todd Brashears, Texas Tech University

Lori Dudley, Texas Tech University

Corey Duysen, Texas Tech University

Thursday, May 17, 4:15 p.m.-5:45 p.m.

Session A – *Global Literacy and Education*

Discussant: Barbara Kirby, North Carolina State University

Facilitator: Stephen Edwards, Virginia Tech

Going Global: Study Abroad Intentions of Agriculture and Natural Resource Students

Rachel Bobbitt, Texas Tech University

Cindy Akers, Texas Tech University

Obtaining Critical Mass for the 21st Century Student: Implications for Agricultural Education

Stacy K. Vincent, University of Kentucky

Bryan J. Hains, University of Kentucky

Investigating the Global Competence of Students Meeting Their International Dimension Requirement through Course Offerings: Implications for Improving Undergraduate Education in the College of Agriculture at Oklahoma State University

Samba Moriba, Oklahoma State University

M. Craig Edwards, Oklahoma State University

Storytelling as a Pedagogical Tool: Effects on Worldview and Attitudes toward Sustainable Agriculture

Patricia E. Grace, Virginia Tech

Eric K. Kaufman, Virginia Tech

Session B – Assessment of Stakeholder and Consumer Attitudes and Behaviors

Discussant: Nicole Stedman, University of Florida

Facilitator: M’Randa Sandlin, Texas A&M University

The Client’s Perspective: A Qualitative Exploration of Service-Learning in Agricultural Communications

Laura Vaught, Texas Tech University

Courtney Meyers, Texas Tech University

Erica Irlbeck, Texas Tech University

Jon Ulmer, Texas Tech University

Service-Learning in Agricultural Communications: Measuring Client Satisfaction

Laura Vaught, Texas Tech University

Courtney Meyers, Texas Tech University

Erica Irlbeck, Texas Tech University

Jon Ulmer, Texas Tech University

The Future of Meat: A Qualitative Framing Analysis of Cultured Meat Media Coverage

Joy N. Goodwin, University of Florida

Catherine W. Shoulders, University of Florida

Traditional and Social Media Channels Used by Texas Agricultural Producers

David L. Doerfert, Texas Tech University

Lindsay Graber, Texas Tech University

Courtney Meyers, Texas Tech University

Erica Irlbeck, Texas Tech University

Session C – Preparation of Effective Teachers

Discussant: Jim Flowers, North Carolina State University

Facilitator: Steve Harbstreit, Kansas State University

Using the Time Student Teachers Allocated to Teaching Agriculture to Understand their Views on Teacher Efficacy

Sheyenne Krysher, Sam Houston State University

J. Shane Robinson, Oklahoma State University

M. Craig Edwards, Oklahoma State University

Agricultural Education Teacher Beliefs Regarding Instructional Supervision

Thomas H. Paulsen, Iowa State University

Robert A. Martin, Iowa State University

The Relationship Between Cooperating Teachers’ Preferred Leadership Style and Student Teachers’ Satisfaction Level

Gaea Wimmer, Texas Tech University

Todd Brashears, Texas Tech University

Scott Burris, Texas Tech University

A Delphi Exploration of Effective Cooperating Teacher Characteristics

Phillip A. Witt, Texas Tech University
Misty D. Lambert, Oregon State University
Jonathan D. Ulmer, Texas Tech University

Session D – *Vibrant, Resilient Communities*

Discussant: Kirk C. Edney, Texas A&M University
Facilitator: Kristin Kovar, University of Missouri

Toward a Framework for Effective Teaching in Extension Education: A Multi-State Factor-Analytic and Psychometric Analysis of Effective Teaching

Billy R. McKim, Texas A&M University
Rebecca G. Lawver, Utah State University
Kellie Enns, Colorado State University
Amy R. Smith, South Dakota State University
Mollie S. Aschenbrenner, California State University, Chico

Positive Mentors and Agricultural Education: An Examination of the Youth-Adult Relationships within an Urban Veterinary Program

William A. Bird, University of Missouri
John Tummons, University of Missouri
Michael J. Martin, University of Missouri
Anna Henry, University of Missouri

Corn Clubs: Pioneer Programs in Agricultural and Extension Education

Cassandra K. Uricchio, University of Massachusetts
Gary E. Moore, North Carolina State University
Michael D. Coley, North Carolina State University

Sidewalks and City Streets: A Model for Vibrant Agricultural Education in Urban American Communities

Nicholas R. Brown, Oklahoma State University
Kathleen D. Kelsey, Oklahoma State University

Session E – *Effective Integration of STEM into Agricultural Education Programs*

Discussant: Brian Myers, University of Florida
Facilitator: Preston Byrd, Iowa State University

Investigating the Effects of a Math-Enhanced Agricultural Teaching Methods Course

Christopher T. Stripling, University of Florida
T. Grady Roberts, University of Florida

An Instrumental Case Study of Effective Science Integration in a Traditional Agricultural Education Program

Marshall A. Baker, Oklahoma State University
J. C. Bunch, Oklahoma State University
Kathleen D. Kelsey, Oklahoma State University

A Grounded Theory Study of CTE Teachers' Perspectives of and Experiences with the Process of CTE and Science Content Integration

Matt Spindler, SUNY Oswego
Bradley C. Greiman, University of Minnesota

Determining the Effect of a Science-Enhanced Curriculum on Agricultural Content Knowledge: A Causal Comparative Study

J. Chris Haynes, University of Wyoming
J. Shane Robinson, Oklahoma State University
M. Craig Edwards, Oklahoma State University
James P. Key, Oklahoma State University

Friday, May 18, 8:00-9:30 a.m.

Session A – *Teacher Resiliency and Retention*

Discussant: Matt Spindler, SUNY Oswego
Facilitator: Gaea Wimmer, Texas Tech University

The Autonomy Trap: Why Highly Successful Agricultural Education Teachers Leave the Profession From a Phenomenological Perspective

Mindi S. Clark, Oklahoma State University
Nicholas R. Brown, Oklahoma State University
Jon W. Ramsey, Oklahoma State University

Stressed Out! Exploring the Experiences of Rank Agricultural Education Student Teachers by Sex and Institution

Matthew Anderson, Lincoln County High School
Tracy Kitchel, University of Missouri
Erica B. Thieman, University of Missouri

Lean on Me: Coping and Mentor Support of Novice Agricultural Educators

John D. Tummons, University of Missouri
Erica B. Thieman, University of Missouri
Tracy J. Kitchel, University of Missouri

Are They Concerned? Determining the Effects of Multicultural Education on the Concern Levels of Preservice Teachers in the South

Andrea T. Kirby, University of Kentucky
Stacy K. Vincent, University of Kentucky
Paula E. Faulkner, North Carolina A&T
Jacque Deeds, Mississippi State University

Session B – *Productive and Informed Citizens*

Discussant: Jim Leising, University of Minnesota
Facilitator: Laura Sankey, Penn State University

Agrarianism: A Philosophy of the National FFA Organization

Michael J. Martin, University of Missouri
Tracy Kitchel, University of Missouri

Connecting Farm Field Trips with Classroom Curriculum

Robyn Stewart, Cornell University

A Case Study of Managing a School-based Agriculture Program in a Diverse, Rural Community

Kristin Kovar, University of Missouri
Anna Henry, University of Missouri

Examining Two Decades of Agricultural Literacy Research: A Synthesis of Findings

Kristin Kovar, University of Missouri
Anna Henry, University of Missouri

Session C – *Effective Teaching and Learning Processes*

Discussant: Jacque Deeds, Mississippi State University
Facilitator: Kristopher Elliot, Oregon State University

Using Mental Models to Depict Effective Teaching in Agricultural Education: How Students Draw their Perception of Teaching Agriculture

J. Shane Robinson, Oklahoma State University
Kathleen Kelsey, Oklahoma State University
Rob Terry, Jr., Oklahoma State University

The Effects of a Technology-Mediated Animal Science Unit on Community College Students' Knowledge and Motivation

Andrea Schwartz, Ivy Tech Community College
Neil A. Knobloch, Purdue University
Levon T. Esters, Purdue University
Colleen Brady, Purdue University

Agriscience Teachers' Confidence to Teach Biology in Plant and Animal Science Courses

Steven "Boot" Chumbley, Eastern New Mexico University
Mark Russell, University of Arkansas

Toward a Framework for Effective Teaching in Agricultural Education: A Multi-State Factor-Analytic and Psychometric Analysis of Effective Teaching

Rebecca G. Lawver, Utah State University
Billy R. McKim, Texas A&M University
Amy R. Smith, South Dakota State University
Mollie S. Aschenbrener, California State University, Chico
Kellie Enns, Colorado State University

Session D – *Meaningful and Engaging Learning Experiences*

Discussant: Bart Gill, Western Illinois University
Facilitator: Bob Williams, Texas A&M University, Commerce

Higher Order Thinking Skills as Demonstrated in Synchronous and Asynchronous Online College Discussion Posts

Sara B. Brierton, North Carolina State University
Elizabeth B. Wilson, North Carolina State University
Mark J. Kistler, North Carolina State University
David W.W. Jones, North Carolina State University
Jim Flowers, North Carolina State University

An Examination of the Learning Activities, Cognitive Level of Instruction, and Teacher Immediacy Behaviors of Successful Instructors in a College of Agriculture

Christopher M. Estopp, University of Florida
Christopher T. Stripling, University of Florida
Nathan W. Conner, University of Florida
Aaron Giorgi, University of Florida
T. Grady Roberts, University of Florida

An Experimental Study of Critical Reflection

Misty D. Lambert, Oregon State University
Robert M. Torres, University of Arizona

The Effects of Teacher Learning Style on Student Knowledge Gain in a Leadership Camp Setting: A Repeated-Measures Experiment

Nicholas R. Brown, Oklahoma State University
Robert Terry, Jr., Oklahoma State University

Session E – Assessment of Program Effectiveness

Discussant: John Ricketts, Tennessee State University

Facilitator: Doug Masser, Penn State University

Examining the Agricultural Education Fishbowl: Understanding Perceptions of Agricultural Education Stakeholders in Higher Education

Marshall A. Baker, Oklahoma State University

Diane Montgomery, Oklahoma State University

An Analysis of FFA Chapter Demographics as Compared to Schools and Communities

Shannon G. Lawrence, Texas A&M University

Lori Moore, Texas A&M University

John Rayfield, Texas A&M University

Corliss Outley, Texas A&M University

A Qualitative Analysis of North Carolina Lateral Entry Teachers Perceived Ability to Lead Quality FFA Programs

Justine C. Kinney, North Carolina State University

Wendy J. Warner, North Carolina State University

James L. Flowers, North Carolina State University

D. Barry Croom, North Carolina State University

The Value Principals Place on Human Capital in Agricultural Education: Implications for Pre-service Teachers

J. Shane Robinson, Oklahoma State University

Marshall A. Baker, Oklahoma State University

The CASE Curriculum and Science Teaching Efficacy: A One Year Follow-up Study

Jonathan D. Ulmer, Texas Tech University
Jonathan J. Velez, Oregon State University
Phillip A. Witt, Texas Tech University
Gregory W. Thompson, Oregon State University
Misty D. Lambert, Oregon State University
Scott Burris, Texas Tech University

This descriptive-correlational study sought to investigate teachers' levels of Personal Science Teaching Efficacy (PSTE) and Science Teaching Outcome Expectancy (STOE) using the Science Teaching Efficacy Beliefs Instrument (STEBI). The population included all teachers completing a CASE Institute training session during the summer of 2010. Assessments were made at two points. First the participants were assessed by using a post-then-pre assessment with a second, follow-up assessment after nine months of implementing the new curriculum. Demographic characteristics are presented to provide insight into the participants. The teachers experienced gains during the institute on both their personal science teaching efficacy and their science teaching outcome expectancy. However, after nine months of using the curriculum, their efficacy remained high while their outcome expectancy returned to the same levels held before attending the professional development. It appears the CASE Institute had a lasting impact on the participants' personal efficacy, but not their outcome expectancy beliefs. Recommendations are made for future research.

Utilization of a High Stakes High School Graduation Exam to Assess the Impact of Agricultural Education: A Measure of Curriculum Integration

J. Brock Nolin, Tallassee City Schools
Brian A. Parr, Auburn University
J. Eric Sewell, Auburn University

Ball, Dyer, Osborne, & Phipps, (2008) posited, “Agricultural education in secondary schools has played an important role in enhancing student achievement in the core subject areas...” (p. 4), while Enderlin and Osborn (1992) reported that agricultural students received higher test scores in biology than students in other science classes. However, further evaluation of this academic integration is warranted to determine which practices are most beneficial to students. This study sought to determine if there was a relationship between the number of agricultural education classes that students took and the subsequent outcomes on the Alabama High School Graduation Exam. To address the research question, binary logistic regression was employed. Results indicated that the model did statistically significantly predict the outcomes on the language and math portion of the exam while the model failed to predict outcomes on the social studies, biology, and reading portions of the exam. This study should be replicated using standardized tests in other states. Comparable data should be collected for students not enrolled in agriculture classes so that the group mean scores can be compared.

An Examination of the Impact of CASE on Students

Jonathan J. Velez, Oregon State University
Misty D. Lambert, Oregon State University
Kristopher M. Elliott, Oregon State University

The purpose of this qualitative study was to examine teachers' thoughts relating to the impact of implementing the Curriculum for Agricultural Science Education (CASE) on students enrolled in the course. Grounded in the Social Cognitive Learning Theory (Bandura, 1986), the researchers employed a phenomenological approach to examine the perceived impacts of the new curriculum on students. Five practicing teachers, who were currently instructing 353 students in Introduction to Agriculture, Food, and Natural Resources (AFNR), and/or Principles of Agricultural Science- both Animal and Plant, were the participants. Data were collected through weekly reflections, semi-structured individual interviews, and a focus group. Results revealed themes relating to the curriculum meeting the needs of students differently, the routine nature of the curriculum, the high reading requirements of the curriculum and the delicate balance between curriculum content and the greenhouse/shop aspects of the agriculture program. The participants recommended modifying the pacing and reading requirements of the curriculum to meet the needs of individual students, as well as adjusting the curriculum to maintain other aspects of the agriculture program. Conclusions are discussed and recommendations are made for future research.

Teachers' Speak About CASE

Misty D. Lambert, Oregon State University
Jonathan J. Velez, Oregon State University
Kristopher M. Elliott, Oregon State University

The purpose of this multiple case study was to explore how the implementation of the Curriculum for Agricultural Science Education (CASE) was impacting five teachers at four high schools in Oregon. Through the use of weekly journals, semi-structured interviews, and a focus group, researchers attempted to gain insight into how the teachers saw this new curriculum impacting their programs, their students and themselves. Five themes emerged from the study: a) Some teachers adapted more easily to the student-centeredness of the curriculum; b) teachers enjoyed having content available, but none of them made it all the way through the material; c) the teacher's personality influenced the implementation of the curriculum; d) Teachers saw attending the institute as vital to their implementation of CASE; and, e) Implementing CASE allowed the teachers to refocus.

The Role of Rosenwald Schools in Agricultural Education for African Americans

Rebecca Fisher, North Carolina State University

Gary Moore, North Carolina State University

Joseph Long, North Carolina State University

The Rosenwald School Building Program was possibly the largest and most influential philanthropic force of the early twentieth century; a time when, in the segregated South, schools for African American students were deplorable. The schools were often dilapidated buildings with no new equipment, only tattered books and scratched-up desks handed down from white schools. To remedy the facilities and curriculum problem, Julius Rosenwald established a fund to build elementary schools in the South for African American students. The Rosenwald Fund recommended the schools be built on at least two acres, securing enough land for school buildings, industrial work-shops, teachers' homes, and viable agricultural land for demonstration work and school gardens. One condition of receiving funds from The Rosenwald Fund was acceptance of a curriculum that included elementary agricultural education and home economics. Students of Rosenwald Schools would often bring home new ideas and practices, enhancing the value of home life, bringing the ability to modify old methods of agriculture and home-making. Many of the Rosenwald Schools evolved into high schools with agricultural education programs. These schools provided educational opportunities to generations of African-American children who otherwise may have been neglected and promoted the study of agriculture.

Funding Agricultural Education for African American Students in the American South: The Slater, Rosenwald, and Jeanes Funds

D. Barry Croom, North Carolina State University
Rebecca A. Fisher, North Carolina State University
Kathryn A. Murray, North Carolina State University

Public funding of agricultural education for African Americans was almost nonexistent in the half century following the American Civil War and preceding the Smith-Hughes Act of 1917. Although White students had public funding available to them for the construction of schools, the purchase of school materials and the hiring of teachers, Black students had to rely on philanthropic funding to build schools for agricultural education during reconstruction and prior to the passage of federal legislation beginning in 1917. Agricultural and industrial education programs were a significant part of the postwar strategy for educating newly freed slaves and the descendants of slaves. Between 1865 and 1900, more than \$40,000,000 poured into the American South for the creation and continuation of agricultural and industrial education for African Americans, much of it from the Anna T. Jeanes Foundation, the Julius Rosenwald Fund and the John F. Slater Fund. This funding provided for significant advancements in agricultural education for Blacks, but it could not completely alleviate the differences between Black schools and White schools with regard to quality. Inadequately funded schools for agricultural education undercut the progress of African Americans in their pursuit of careers in the agriculture industry in the twentieth century.

Teacher Preparation for the Culturally Different: The Next Chapter

Jonathan Tubbs, University of Kentucky

Bryan Hains, University of Kentucky

Stacy Vincent, University of Kentucky

Four decades ago agricultural educators challenged teacher educators in agricultural education to provide culturally relevant training. This qualitative case study examines one faculty member/co-researcher's approach toward instilling culturally immersive experiences into graduate curriculum. Participants completed course assignments designed to enhance their multicultural understanding and competence. Course assignments culminated in an immersive experience where students embodied an alter-identity representative of a culture, sub-culture, or group either foreign to the student or opposite themselves. Results indicated that the designed cultural immersion did assist students in transitioning their cultural knowledge from a basic understanding to a greater cultural competence.

Assessing the Agriculture Teacher Workforce in New England

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Gary E. Moore, North Carolina State University
D. Barry Croom, North Carolina State University
Elizabeth B. Wilson, North Carolina State University
Shannon E. Pratt-Phillips, North Carolina State University

There has been a steady elimination of agricultural education teacher preparation programs in New England. In order to understand the effects of this trend, an investigation into the background, preparation, and certification of the New England agriculture teacher workforce was conducted. Current inservice needs were also assessed using the Borich (1980) Needs Assessment model. The population for this study included all agriculture teachers currently employed in the six New England states (N = 288) during the 2010 – 2011 school year. A total of 164 questionnaires were completed for a response rate of 56.94%. The majority of respondents worked in the agricultural industry for at least five years and completed a traditional teacher preparation program at a New England land-grant university. The top inservice needs included writing grant proposals for external funding and managing and reducing work-related stress. Significant differences in inservice needs were found between traditionally and alternatively certified teachers and between beginning and experienced teachers. Results indicated that the agriculture teacher workforce in New England is in a transitional stage and high quality professional development needs to be offered for different groups of agriculture teachers.

Effects of the Order of Abstraction and Type of Reflection on Content Knowledge When Teaching Experientially: An Exploratory Experiment

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Nicholas R. Brown, Oklahoma State University
J. Joey Blackburn, Oklahoma State University
J. Shane Robinson, Oklahoma State University

The purpose of this experimental study was to determine the effects of order of abstraction and type of reflection on student knowledge acquisition. Students were assigned randomly to one of four treatment combinations in the completely randomized 2x2 design which included either abstraction prior to, or after an experience, and either reflection-in-action or reflection-on-action. A Lab-Aids® inquiry-based kit centered on the principles of biofuels served as the content for the treatment. The findings of this study indicate that order of abstraction does not have a statistically significant effect on knowledge acquisition scores, but that reflection-in-action did have a statistically significant effect on the increasing students' knowledge of the selected biofuel concepts. It is recommended that teachers, at both the secondary and university level, focus on effective strategies of reflection-in-action to draw deeper, more enduring learning from students' experiences in agricultural education. The study was exploratory in nature, and recommendations were given in regards to full-scale replications of the study.

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Teachers' Perceptions Regarding Experiential Learning Attributes in Agricultural Laboratories

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In laboratory settings, research has found a mismatch between teachers' practices and the likelihood they have to influence students' perceptions and behaviors in laboratory work. Various attributes of experiential learning can enhance learning experiences, yet many have not been subject to exploration in agricultural education. This nonexperimental, descriptive study sought to investigate how teachers' perceptions of the attributes that can make up experiential learning activities and how their ability to address these attributes might be associated with the different learning environments found in agricultural laboratories. Results indicated that teachers found that student ownership and types of motivation students respond to as most important, while duration of the activity and background knowledge of the students as least important. Further, teachers reported that the actions required during an activity and types of motivation were most frequently able to be addressed, while use of senses and family involvement were least frequently able to be addressed. These results, along with those associating specific laboratory settings with teachers' ability to address various experiential learning attributes, hold implications for teacher training in experiential learning used in laboratory settings.

Experiential Learning through Visual Communications Curriculum in Secondary Schools

Kristin M Pennington, University of Arkansas
Leslie D. Edgar, University of Arkansas
Don W. Edgar, University of Arkansas

Visual communications curriculum was developed and incorporated into Arkansas secondary agricultural science courses. Perceptions of the curriculum and an associated experiential learning activity were assessed. Teachers were given electronic access to all lessons, instructional PowerPoint's, worksheets, and handouts. Lessons contained in the curriculum unit covered basic photography, writing, and videography skills. Upon completion of instruction, the University of Arkansas visited identified schools with a mobile classroom equipped with computers, digital SLR cameras, and video cameras. Students spent a full day collaboratively taking photos and capturing video which supported their agricultural news or feature storyboards. Once all images and video had been captured, students worked in Adobe Photoshop and Premiere Pro to edit and complete short promotional videos about agriculture. Student perceptions were assessed using a seven-point Likert scale-20 question instrument. Teachers who participated in the program were also surveyed. Seven Arkansas high school agriculture programs have completed the program at the time this article was submitted, with one school repeating participation with a different group of students. Students perceived this curriculum to be enjoyable, interesting, and practical for their future. Overall, teachers agreed that students gained knowledge about visual communications. Additionally, teachers perceived that the participating students were engaged and interested in the topic and 87.5% of the teachers would include the curriculum without the program. The curriculum can be used in high school agricultural programs outside of Arkansas to expand student learning opportunities in visual communications and the agricultural communications FFA CDE.

**Students Interacting with Animals:
A Case study of Animal Interaction in School-based Agricultural Education**

Michael J. Martin, University of Missouri
John Tummons, University of Missouri
William A. Bird, University of Missouri
Anna Henry, University of Missouri

The purpose of this bounded single case study was to explore how an urban school-based veterinary program impacted students, faculty, and community members. The program was unique because students were required to participate in internships with local animal care businesses and care for animals at school. The responsibility of caring for the animals created a compassionate and safe environment sought by students and faculty alike. Animals provided students a hands-on learning tool facilitating career skill development, social and professional connections within the community, and emotional skill development.

An Assessment of Students' Perceptions Toward Factors Influencing Supervised Agricultural Experience Participation

Lauren J. Lewis, Texas A&M University

John Rayfield, Texas A&M University

Lori Moore, Texas A&M University

The purpose of this study was to investigate student perceptions toward factors influencing Supervised Agricultural Experience (SAE) participation. This descriptive study was conducted in 120 randomly selected agricultural education programs throughout four purposively selected states representative of the National FFA regions. Within each state the programs randomly selected to participate were from FFA divisions characterized as having urban city-centers with outlying rural/suburban areas. Students completed a questionnaire assessing perceptions toward factors influencing SAE participation. According to findings of this study, each state had three prominent types of school SAE resources available for student use. Almost all students with a SAE project believed their teacher encouraged every student to have a SAE, and most received SAE help from a teacher monthly. Factors such as agricultural education courses, parental and teacher support and encouragement, resources (money and facilities), and opportunities for awards and recognition did not seem to influence student SAE participation. Students did believe skill development from SAE participation would be beneficial to their future. Contrary to previous research, involvement in community and school activities did not seem to negatively influence student SAE participation.

Supervised Agricultural Experience: An Examination of Student Knowledge and Participation

Lauren J. Lewis, Texas A&M University
John Rayfield, Texas A&M University
Lori Moore, Texas A&M University

The purpose of this study was to investigate student Supervised Agricultural Experience (SAE) knowledge and participation. This descriptive study was conducted in 120 randomly selected agricultural education programs throughout four purposively selected states representative of the National FFA regions. Students completed a questionnaire assessing knowledge of the five SAE categories. According to findings of this study, 45.6% of the students surveyed reported having a SAE program (n = 473). Students on average could only correctly categorize at most three of the five SAE project scenarios and approximately one-third of the students surveyed in Indiana, Missouri, and Utah could categorize all five. Students appeared to be able to correctly identify the improvement, research and experimentation, and placement SAE categories more frequently. Those surveyed without a SAE program were either not familiar or somewhat familiar with the five SAE categories. The average number of classroom days spent on SAE instruction since enrolled in agricultural education courses varied from nine to 34 and half of the students in three of the states did not receive a grade for their SAE program or record book in agricultural education courses. Students surveyed did not believe they needed more classroom instruction from their teacher about SAEs.

Economic Impact of Agricultural Mechanics Competition Projects in Texas and Factors that Predict Chapter Investment Value

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Doug Kingman, Sam Houston State University

The educational value of experiential learning is widely accepted (Kolb, 1984). Supervised Agricultural Experience (SAE), as an anchor for experiential learning, is a well-documented, valuable, and integral part of agricultural education programs (Deyoe, 1953; Moore, 1988; Cheek, Arrington, Carter, & Randall, 1994; Dyer & Osborne, 1996; Bryant, 2003; Roberts & Harlin, 2007). Cole and Connell (1993) found that there was little research regarding the economic value of SAEs; they suggested that measuring the cost and economic benefits of SAEs would provide valuable information in communicating additional benefits of SAE programs. This study found that 45% of chapters are involved in agricultural mechanics show projects, and this portion of Texas programs are creating \$10 million in economic impacts to the Texas economy. It was also determined that programs with agricultural mechanic show projects are more active in using record books, larger programs and have improved local support over non-participating programs. This study also found demographic variables such as numbers of teachers, students, higher community support and miles traveled significantly correlated to higher investment cost of agricultural mechanics SAEs, again illustrating the economic value of this educational area. These economic impacts are important significant values and should be reported to school stakeholders. Methods of assessment should be improved to provide more accurate estimates of value, and economic values should be considered as an aspect of program assessment.

**An Ethnographic Study of a Post-Secondary High-Impact Field Experience:
Understanding Experiential Learning on the Road to the National FFA Convention**

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Holli R. Leggette, Texas A&M University
Debbie W. Prince, Texas A&M University
Caroline K. Black, Texas A&M University
Shannon G. Lawrence, Texas A&M University

This study focused on an eight-day field experience course at Texas A&M University that was developed using Kolb's model of experiential learning (1984) and guided by the Knowles, Holton, and Swanson's (2005) theory of adult learning. Thirteen undergraduate students and one graduate student were exposed to cultures and beliefs not necessarily familiar or similar to their own. Cohort members reflected at five points during the course, which were analyzed using qualitative methods to reveal the impacts of the experiential learning instances of the experience. Seven major themes were revealed in students' reflections: emotion, service, culture, barriers and risk, professionalism, career, and the desire to know. This field experience encouraged students to embrace their education by developing as an individual, inquiring the unknown or misunderstood, and immersing themselves into an unfamiliar environment.

Quantitative Theoretical and Conceptual Framework Use in Agricultural Education Research

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The purpose of this philosophical paper was to articulate the disciplinary tenets for consideration when using theory in agricultural education quantitative research. The paper clarified terminology around the concept of theory in social sciences and introduced inaccuracies of theory use in agricultural education quantitative research. Finally, some specific theory uses were outlined. This philosophical paper purported that theory in quantitative research in agricultural education should be used to: 1. help develop or guide a program, through which aspects of the program itself are researched; 2. define or prescribe how a variable is measured; 3. test middle-range or substantive theories; and 4. articulate and provide rationale behind the relationships between or among variables. Through numerous professional development seminars for research at national and regional conferences, and by a myriad of research paper presentations and journal publications in agricultural education on research, agricultural education as a discipline, has communicated that quality research is an ongoing issue in the profession. A clear delineation for theory use in quantitative research potentially serves the profession to focus more clearly on investigating quality, in-depth, research problems communicable to broader contexts.

The Qualitative Exploration of First-Year Experiences in a College of Agriculture

Keyana C. Ellis, Virginia Tech

Eric Kaufman, Virginia Tech

Rick Rudd, Virginia Tech

The purpose of this qualitative exploratory case study was to document and explore undergraduate agricultural science students' perceptions of their experiences in their first year of matriculation at a four year Land Grant institution. This study used a comprehensive, criterion based purposeful sample (Creswell, 2007; Patton, 2002) of nine undergraduate students at a four-year land grant institution, who were first-year students enrolled in the Agricultural Sciences major (N = 9). Interviews and reflective journals were used to make meaning of their experiences during their first year in college. When students were asked about their backgrounds, expectations, and intentions in college, five major themes emerged from the students' responses: first generation students; strong ties to FFA, advisors, and the farm; expectations for both social and academic challenge; intentions to acquire a college degree; and diversity of answers. When asked about their experiences in their first year, students identified challenges with technology, finances, relationships, academics, and decisions-time-juggle. While brief, the students also identified positive associations with their experiences in college. The researchers offer recommendations for colleges of agriculture to assist first-year students to academically and socially integrate into the collegiate environment to increase student retention, as well as, implications for future research.

How Perception of Evaluation Use Improves Accountability Efforts: A National View

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Glenn D. Israel, University of Florida

As state and federal budgets tighten, educational programs, such as the federal Extension system, become the target of budget cuts. To maintain current funding levels, Extension must be accountable for the use of public funds. While those working within Extension know the long-term successes of extension programs, data detailing it are limited. High quality evaluations must be developed to collect the data needed to exhibit public value. One way to encourage the collection of rigorous data is through the use of evaluation. Evaluation use creates an environment that encourages organizational thinking that can result in accountability reports adequate for funding decisions. This national study (n = 1,795) examined how extension professionals' evaluation behaviors are related to their perceptions of personal and organizational evaluation use. The findings show that a substantial percentage of extension professionals are doing just enough evaluation to complete mandatory reports. The results of the study also showed that extension professionals valued personal use of evaluation data over the organizational use. Extension professionals were more likely to conduct in-depth evaluations when it was used to inform stakeholders or for future planning than for accountability purposes. Extension administrators must open communication channels to demonstrate the value of evaluation despite accountability requirements.

The Relationship between University Involvement and Satisfaction Level of Community College Transfer Students in Agriculture and Natural Resources

Rachel Bobbitt, Texas Tech University
Cindy Akers, Texas Tech University
Kim Peters, Texas Tech University
Todd Brashears, Texas Tech University
Lori Dudley, Texas Tech University
Corey Duysen, Texas Tech University

During the past century, community colleges have grown tremendously in number and, as a result, the number of students transferring to universities has increased. It is important for university faculty and staff to find ways to integrate these students and prevent their attrition. A growing body of literature supports the relationship between students' involvement in university activities and their satisfaction with their educational experiences. To assess satisfaction and involvement patterns of community college transfer students, a descriptive study was performed on community college transfer students enrolled in the College of Agricultural Sciences and Natural Resources. A researcher-developed questionnaire was adapted from the Laanan-Transfer Students' Questionnaire (2004) and Berger and Malaney's (2003) Community College Transfer Survey. Responses indicate students had low involvement in campus activities, but were still moderately satisfied. In general, results suggest if students are involved on the college level, they tend to be slightly more satisfied with the college and department, but university involvement did not significantly affect satisfaction on any level. Time spent with family and at work, as well as gender, may have influenced the involvement and satisfaction of these students. More research will need to be conducted to determine if involvement really doesn't impact satisfaction of these students.

**Going Global:
Study Abroad Intentions of Agriculture and Natural Resource Students**

Rachel Bobbitt, Texas Tech University
Cindy Akers, Texas Tech University

Study abroad programs affiliated with colleges and universities all over the world work at developing cultural awareness in students, as well as preparing them to grow academically and personally. While these experiences are encouraged, not all students choose to participate, especially, it appears, students in agriculture and natural resources. This study was designed to search for a better understanding as to why some students choose to participate while others do not, using the theory of planned behavior (TPB). The TPB states a person's behavioral intention is determined by three factors: attitude towards the behavior; degree of social pressure felt to perform or not perform the behavior; and the degree of control over performing the behavior (Ajzen, 1991). A tailored-design, web-based questionnaire was distributed to 1,537 agriculture and natural resources undergraduates, with a 33% response rate. As expected, the TPB predictors were highly correlated with intentions. Multiple regression results support the TPB and direct measures of the theory variables predicted 54% of intent to study abroad. The results show the TPB can improve understanding of a student's intention to study abroad, and the findings can be used to develop and market study abroad programs in which students are likely to participate.

Obtaining Critical Mass for the 21st Century Student: Implications for Agricultural Education

Stacy K. Vincent, University of Kentucky
Bryan J. Hains, University of Kentucky

Obtaining a critical mass of a population is instrumental in the development of a diverse profession. The purpose of this case study was to investigate techniques for obtaining a critical mass of minority secondary agriculture teachers by obtaining information from a practicing minority teacher. Five themes emerged from the information: (a) teaching with passion results in modeling; (b) barriers that limit success; (c) embedded contextual frustrations; (d) willingness to obtain resources; and (e) active/non-active heterogeneity. Recommendations include examining teacher certification examinations, adding ethnic minority teachers to committees, showcase ethnic minority teachers as models for recruitment, and increase historical research about prominent minority agricultural educators.

Investigating the Global Competence of Students Meeting Their International Dimension Requirement through Course Offerings: Implications for Improving Undergraduate Education in the College of Agriculture at Oklahoma State University

Samba Moriba, Oklahoma State University

M. Craig Edwards, Oklahoma State University

Many U.S. colleges and universities are concerned with how best to prepare their students to become globally competent citizens capable of tackling the global challenges that will confront them. The need existed to investigate the global competence of students participating in international dimension (ID) courses at Oklahoma State University (OSU). This investigation was a census study and the target population consisted of all undergraduate students (N = 147) enrolled in three ID undergraduate courses offered in the College of Agricultural Sciences and Natural Resources (CASNR) at OSU during the Fall semester of 2010. The researchers used general knowledge instruments to gather pretest and posttest data to measure differences resulting from a treatment effect (i.e., student participation in an ID course). Students' post course knowledge scores were higher than their pre course scores, even though their overall performance was below 60% correct. However, this was a statistically significant difference ($p < .05$) in the students' knowledge regarding general global competence from pre course to post course, and demonstrated a small effect size. The study's findings should be used by faculty in CASNR to improve the undergraduate curriculum by creating and delivering courses that prepare students to succeed in an increasingly globalized world.

Storytelling as a Pedagogical Tool: Effects on Worldview and Attitudes toward Sustainable Agriculture

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Eric K. Kaufman, Virginia Tech

The Association of Public and Land-grant Universities (2010) report titled A Science Roadmap for Food and Agriculture framed several societal needs that require a change in worldview by a substantial portion of the population. The National Research Council Committee on a Leadership Summit to Effect Change in Teaching (2009) has suggested that agriculture colleges need to lead the way to meet the needs of the changing world. However, changing worldviews is not an easy task. A growing body of research in other disciplinary areas suggests that storytelling can serve as an effective method of fostering change. This mixed-methods study examines the role of storytelling in effecting positive change in worldview and attitudes toward sustainable agriculture. The study explores the effects of Story-based versus Information-based treatments on students' attitudes toward sustainable agriculture. The hypothesis of the study was that Story-based treatments would be more effective in promoting positive change than Information-based treatments. The findings of the study provide evidence supporting this hypothesis. The story characteristics found to be associated with positive change included: first-hand personal view, vivid description, and identification with the narrator.

The Client's Perspective: A Qualitative Exploration of Service-Learning in Agricultural Communications

Laura Vaught, Texas Tech University
Courtney Meyers, Texas Tech University
Erica Irlbeck, Texas Tech University
Jon Ulmer, Texas Tech University

Service-learning is a teaching strategy that connects classroom instruction with community service through critical reflection. A better understanding of campus-community partnerships helps determine the impact these partnerships have on the community and helps establish the success of the service-learning endeavor. Although service-learning has been studied across curricula, the benefits of adopting it in agricultural communications have not been established. The purpose of this study was to explore individuals' perceptions and opinions of serving as clients in a service-learning agricultural communications course. Seven clients from the course were purposively selected and interviewed to gain insight into the student-client relationship. Respondents said they enjoyed the experience overall, but offered suggestions to further improve the collaboration. Suggestions for future practice included clarifying goals of the service-learning projects in the beginning and maintaining open communication. Clients also said they would like to provide feedback to the students to further improve their communication skills. Additional research should be conducted in this course and other agricultural courses that use clients as community partners to further examine client satisfaction.

Service-Learning in Agricultural Communications: Measuring Client Satisfaction

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Courtney Meyers, Texas Tech University
Erica Irlbeck, Texas Tech University
Jon Ulmer, Texas Tech University

Service-learning is a pedagogy that seeks to provide a mutually beneficial relationship for all parties – student, institution, faculty, and community partner – to ensure that service and learning enhance each other. In communications courses, clients are often used as community partners in service-learning endeavors. Much can be gained by examining the community partners' opinions of the partnership and applying their suggestions for improvement. The purpose of this study was to better understand the satisfaction of individual clients who served as community partners in a service-learning course in agricultural communications. Using descriptive survey methodology, 15 clients completed a questionnaire about their experiences with the course. Respondents reported a positive attitude about working with students, and were satisfied with the student-client interaction, the final product, and the overall experience. However, some changes can be made to improve the experience in the future. This study also revealed the potential for other agricultural communications courses to adopt service-learning. Further research is needed to further understand client perspectives in agricultural communications courses.

The Future of Meat: A Qualitative Framing Analysis of Cultured Meat Media Coverage

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Catherine W. Shoulders, University of Florida

This study sought to explore the frames and sources used in preliminary media coverage surrounding cultured meat in both the United States and the European Union. The qualitative framing analysis was conducted on 34 articles. The results indicate that frames commonly used among cultured meat news articles in both the United States and the European Union included benefits, history, process, time, current livestock production problems, and skepticism. Additionally, the sources commonly used in the articles included researchers in the cultured meat technology, sources from academia, PETA, New Harvest, Winston Churchill, restaurant owners/chefs, and sources from the opposing countries (e.g. US use some EU sources and vice versa). The implications of this study will allow agricultural communicators to not only begin to understand how the media might be influencing consumers' perceptions about the topic, but also allows them to strategize how to shape future communication about cultured meat.

Traditional and Social Media Channels Used by Texas Agricultural Producers

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Communication has been a key factor in bringing about change in agriculture in the past suggesting that social media technologies could be used to advance agriculture in the future, as well as keeping agricultural specialists up-to-date on current events and information. The increasing pace of advancements in agriculture and communications technology has created a significant need to monitor and adjust to changes in the communication behaviors of the various industry stakeholders and audience segments. The purpose of this study was to understand the current use of traditional and social media channels by Texas agricultural producers. By random sample, 3,000 farmers were surveyed to collect quantitative data related to communication technology use. Producers identified agricultural magazines being the primary channel type for most information types and decision-making needs. At this time, producers are not using social media technologies to access production-related information. However, unlike previous studies, producer use of the Internet is increasing and has become the primary means to access commodity market-related information. The authors recommend additional research examining the communication channel adoption patterns of producers before extensive use of these channels by agricultural communicators in their strategic and tactical information dissemination plans.

Using the Time Student Teachers Allocated to Teaching Agriculture to Understand their Views on Teacher Efficacy

Sheyenne Krysher, Sam Houston State University
J. Shane Robinson, Oklahoma State University
M. Craig Edwards, Oklahoma State University

Several studies in agricultural education have assessed teacher self-efficacy of novice, first-year, and veteran teachers. Likewise, numerous studies have assessed the time students spend at their cooperating centers. However, a need existed to understand the influence of time allocation on teacher self-efficacy in a way that enabled human subjectivity (i.e., Q-methodology) to be considered. The study found that three intern views existed at Oklahoma State University in agricultural education: Self-Assured Teachers, Determined Teachers, and Emergent Teachers. The Self-Assured Teachers spent the most amount of time teaching when compared to the other two views. Determined Teachers spent the most amount of time observing, and Emerging Teachers spent the most amount of time in school. The findings have implications for student teacher placements in cooperating centers and pre-service teachers' early field-based experiences in agricultural education.

Agricultural Education Teacher Beliefs Regarding Instructional Supervision

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The purpose of this study was to identify perceived beliefs held by agricultural education teachers regarding the supervision of instruction. This study was based on the work of Ferguson and Bargh (2004) regarding how social perception can automatically influence behavior. Data are reported on ten general beliefs regarding instructional supervision. Agricultural education teachers indicated that instructional supervision: should be used in all teachable moment situations where teachers and learners interact, is collaborative in nature, is conducted to help the learner, and is more art than science. Female agricultural education teachers' beliefs varied from their male counterparts regarding location of the instructional supervision process. It is recommended that agricultural education teachers become engaged in a holistic approach to supervision that takes into consideration the formal and non-formal aspects of their professional practice.

The Relationship Between Cooperating Teachers' Preferred Leadership Style and Student Teachers' Satisfaction Level

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Scott Burris, Texas Tech University

Improving the student teaching semester has been a topic of interest in this profession for many years. The relationship between the cooperating teacher and the student teacher is an important variable in the efforts to improve the student teaching experience. Understanding the impact that leadership style may have on that relationship is a needed area of research. The purposes of this study were to describe characteristics of the student teachers, their level of satisfaction with their cooperating teacher, the cooperating teacher's preferred leadership style and the relationship between the cooperating teacher's preferred leadership style and the student teacher's level of satisfaction. Twenty-nine cooperating teachers (63%) completed the ELSI-AG and nineteen student teachers completed an instrument designed to measure satisfaction (100%). The majority of cooperating teachers preferred the supporting leadership style ($n = 21$). The student teachers were satisfied with their cooperating teacher ($M = 5.60$). There was a moderate positive correlation ($r = .33$) between the supporting leadership style and overall perceived satisfaction. More research is recommended to evaluate the student teachers' development level throughout the student teaching semester. Also it is recommended to train cooperating teachers how to utilize the Situational Leadership Model.

A Delphi Exploration of Effective Cooperating Teacher Characteristics

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Misty D. Lambert, Oregon State University
Jonathan D. Ulmer, Texas Tech University

This Delphi study sought to further develop the model for an effective cooperating teacher by identifying the characteristics that constitute an effective cooperating teacher in Missouri and Texas and then comparing them to the model of cooperating teacher effectiveness developed by Roberts (2006). The Delphi panels were created from teacher nominations in the two states and resulted in 16 teachers in Missouri and 15 teachers in Texas who responded to the prompt “When supervising a student teacher, what personal and professional characteristics do you think are essential to being an effective cooperating teacher?” Personal characteristics were identified more than other categories while characteristics related to teaching and instruction were identified least. Results appear in table form and models were created from the findings.

Toward a Framework for Effective Teaching in Extension Education: A Multi-State Factor-Analytic and Psychometric Analysis of Effective Teaching

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To successfully educate the public about agriculture, food, and natural resources, we must have effective educators in both formal and nonformal settings. Specifically, this study, which is a valuable part of a larger sequential mixed method study addressing effective teaching in formal and nonformal agricultural education, provides direction for future effective teaching research in extension education. Particularly, this study assessed 142 behaviors, characteristics, and techniques considered indicative of effective teaching, to reduce the number of competencies and identify constructs of effective teaching in extension education. A total of 1,470 extension educators from 30 states, surveyed in the fall of 2011, served as the population for this study. As a result, 63 effective teaching competencies in 11 constructs were identified. Psychometric evaluation of the 11 constructs resulted in Cronbach's alpha coefficients ranging from .82 to .93, supporting the reliability of the identified constructs. An expert panel then named the constructs, many of which aligned with those identified in previous teaching effectiveness research. Implications for practice and research resulted from this study, including a proposed three-part framework for assessing effective teaching in extension education, which includes self-evaluation, observation-based assessment, teaching-related output and/or outcome measures.

Positive Mentors and Agricultural Education: An Examination of the Youth-Adult Relationships within an Urban Veterinary Program

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John Tummons, University of Missouri
Michael J. Martin, University of Missouri
Anna Henry, University of Missouri

The purpose of the bounded single case study was to explore a successful urban high school agricultural veterinary program. Findings indicated student success was a product of multiple youth-adult relationships created through communal environments. Adults served as mentors with whom students felt constant, caring support. The attachment formed between the students and adults was a result of the program and/or internship atmosphere. This case demonstrated how a school-based agricultural veterinary program can effectively serve the needs of students in urban areas. The researchers recommend agriculture teachers work to construct meaningful relationships for their students with adult role models beyond the typical classroom. Agriculture teachers should adopt teaching and communication strategies to encourage open, trusting, and safe learning environments to enhance student engagement.

Corn Clubs: Pioneer Programs in Agricultural and Extension Education

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Corn clubs were local organizations consisting of boys who cultivated corn on one acre of land under the supervision of a local club leader. The purpose of this historical research study was to document the organization, operation, and outcomes of corn clubs. The corn-club movement was cooperatively promoted by various groups such as universities, public schools, agricultural societies, state departments of agriculture, the United States Department of Agriculture, and various philanthropic groups. Corn clubs played an important role in improving agriculture at the turn of the 20th century. In addition, the corn-club movement increased the demand for agricultural education in public schools and influenced the development of the National FFA Organization and 4-H Youth Development Organization. Strategies and procedures from corn clubs can be adapted and utilized in agricultural and extension education today.

Sidewalks and City Streets: A Model for Vibrant Agricultural Education in Urban American Communities

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In 2005, The National Council for Agricultural Education (NCAE) unveiled The Long Range Goal for Agricultural Education also known as 10 x 15. According to NCAE, the primary goal of 10 x 15 was to create 10,000 new agricultural education programs by 2015 that focused on an integrated model of classroom and laboratory instruction, experiential learning, leadership, and personal skill development. In an effort to meet this goal, NCAE identified a need to design programs that focused on specific customers and communities. Urban programing was one area of emphasis cited in the report. In light of the call for several thousand new agricultural education programs nationwide and the dearth of literature to support direction for creating new programs, this instrumental case study resulted in a deeper understanding of the process that led one urban school district to create a new, community-focused agricultural education program. During the data analysis process, five themes emerged that informed a model for originating future urban agricultural education programs: 1) reasoned motivation, 2) hourglass advocacy, 3) intentional innovation, 4) community rejuvenation, and 5) program regeneration. Each theme is presented in the sequence in which it unfolded and, subsequently, resulted in the creation of an urban agricultural education program.

Investigating the Effects of a Math-Enhanced Agricultural Teaching Methods Course

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Numerous calls have been made for agricultural education to support core academic subject matter including mathematics. Previous research has shown that the incorporation of mathematics content into a teaching methods course had a positive effect on preservice teachers' mathematics content knowledge. The purpose of this study was to investigate the effects of a math-enhanced agricultural education teaching methods course on preservice agricultural education teachers' mathematics ability, personal mathematics efficacy, mathematics teaching efficacy, and personal teaching efficacy. Results indicated that preservice teachers' mathematics ability increased after the math-enhanced teaching methods course. Interestingly, personal mathematics efficacy decreased while mathematics teaching efficacy and personal teaching efficacy increased slightly after the math-enhanced teaching methods course. Based on the results of this study, peer-teaching that utilizes the seven components of a math-enhanced lesson may be an appropriate means to improve the mathematics ability of preservice agricultural education teachers.

An Instrumental Case Study of Effective Science Integration in a Traditional Agricultural Education Program

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The integration of science and agriculture has been discussed since the inception of agricultural education. However, the standards-based focus in public secondary education and changing climate of agriculture has brought science integration back to the forefront over the past twenty years. Though research has indicated that the integration of science into agricultural education is effective in improving student achievement in science, there are still challenges and questions regarding it. The purpose of this instrumental case study was to understand how Mr. Lee effectively integrated science into a traditional program while maintaining the benefits and purpose of agricultural education. Six issues, deduced from literature related to the integration of science in agricultural education, were identified. Six themes emerged that elucidate the process of successful science integration. First, effective integration matches the Roberts and Ball's content and context dual-model. Second, teacher science content knowledge must be strengthened. Third, there were missing components in terms of the pedagogy of scientific inquiry. Fourth, teachers should work to dig into their curriculum for science that already exists. Fifth, collaboration among agriculture and science teachers can be fostered through active involvement in the science department, and sixth the agricultural instructor should play a fundamental role in curriculum planning to increase science achievement at the secondary level.

A Grounded Theory Study of CTE Teachers' Perspectives of and Experiences with the Process of CTE and Science Content Integration

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The integration of career and technical education (CTE) and academic curricular content that capitalizes on natural and inherent connections represents a challenge for CTE professionals. The research question that was used to guide the current study was: What are CTE teachers' perspectives of and experiences with the process of CTE and science content integration? The CTE teachers expressed that the process of CTE and science content integration was a process of evolutionizing. From the perspective of the CTE teachers involved integrating CTE and science content resulted in their programs of study being adapted into something different than they were before the process of integration was begun. The CTE teachers revealed that the evolutions in their programs of study and themselves were associated with three other categories within the grounded theory: (a) connecting; (b) enacting; and (c) futuring. The process of CTE and science content integration represents a deep and complex episode for CTE teachers. The process of CTE and science content integration requires connecting to others, putting ideas into action, and an orienting towards the future.

Determining the Effect of a Science-Enhanced Curriculum on Agricultural Content Knowledge: A Causal Comparative Study

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M. Craig Edwards, Oklahoma State University
James P. Key, Oklahoma State University

In the next 20 years, a deficit of workers will exist in the United States, which will necessitate the need for an additional 20 million skilled laborers in the workplace. Fortunately, agricultural education exists in part, to develop competencies of students for successful employment in the agricultural industry. The purpose of this causal comparative study was to determine the effect that a science-enhanced curriculum would have on students' agricultural content knowledge. The purposeful sample population for this study consisted of students whose secondary agricultural education instructors held a science credential in Oklahoma, and were selected by Agricultural Education Division staff to use the curriculum. Additionally, 10 equally credentialed instructors forming a purposeful comparison group were selected according to specific variables (i.e., EOI scores, API scores, and SES status) for equivalency purposes. The findings of this study revealed a statistically significant difference in agricultural technical competence in animal science and horticulture as a result of the treatment. Recommendations point to the need for study replication to ensure the accuracy of the findings. Additionally, comparison of the treatment and comparison curriculums should be completed to determine where deficiencies may exist in the "traditional" curriculum.

The Autonomy Trap: Why Highly Successful Agricultural Education Teachers Leave the Profession, A Phenomenological Perspective

Mindi S. Clark, Oklahoma State University
Nicholas R. Brown, Oklahoma State University
Jon W. Ramsey, Oklahoma State University

This phenomenological study examined the essence of highly successful teachers leaving the field of teaching secondary agricultural education. Seven former agricultural education teachers were selected to engage in a semi-structured interview; these educators had been identified as being highly successful by staff members of the agricultural education division of [State] during their teaching career. Participants varied in gender, age, years of experience, and demographic areas. Several themes emerged: (1) Common characteristics exist among successful teachers who exit the profession; (2) In order to remain satisfied in the profession, successful teachers prefer to work under their own self-motivation rather than others' expectations; (3) Successful teachers who exit the profession blame themselves for leaving; and (4) Successful teachers who decide to exit the profession have invested so much of themselves in the program, at such a high personal cost, that their final decision to leave is irreversible.

Stressed Out! Exploring the Experiences of Agricultural Education Student Teachers by Sex and Institution

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Erica B. Thieman, University of Missouri

Teaching agricultural education is regarded as very challenging within the profession of education (Knobloch & Whittington, 2002). In a Delphi study, Mundt and Connors (1999) found that first year agricultural education teachers identified 25 stressors related to the career. Student teachers also experience stress. Teacher preparation curriculum allows teacher candidates to assume the responsibilities associated with teaching through a carefully structured student teaching experience. The purpose of this study was to identify the stressors of student teachers at the University of Kentucky (UK) (N=14) and at Oklahoma State University OSU (N=25) and make comparisons based on sex and institution attended. It was concluded that student teacher stressors are similar to the stressors of first year teachers. Student teachers at both institutions collectively self-identified classroom/behavior management, time management, and lesson planning as stressful components of the experience. Stressors collectively identified by the derived questionnaire included self-identified classroom/behavior management, time management, and technical competency in agricultural content.

Lean on Me: Coping and Mentor Support of Novice Agricultural Educators

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Erica B. Thieman, University of Missouri

Tracy J. Kitchel, University of Missouri

The beginning agriculture teacher experiences a multitude of stressors in their daily work. This descriptive-correlational study explored the stress coping styles and perceived mentor support in response to stressors for early-career teachers in Missouri. When faced with a stressful situation, individuals tend to respond with one of two coping strategies. Teachers could respond to stress with emotion-focused coping, which leads to stress and burnout, or problem-focused coping, which leads to resilience. Early-career teachers respond to stressors utilizing problem-focused coping strategies in the program areas of advising FFA activities, teaching in the classroom / laboratory, and supervising SAE programs. A common response used to mediate beginning teacher stress is a formal mentor program to acclimate teachers into the profession. Beginning teachers felt supported to a large extent by their mentors in the mentor roles of counseling, friendship, acceptance, and role models. A statistically significant ($p < .05$) positive relationship was found between the level of counseling mentor support and supervising SAE programs for teachers employing problem-focused coping; a statistically significant ($p < .05$) negative relationship was found in the supervising SAE program component for teachers employing emotion-focused coping and the level of social mentor support.

Are They Concerned? Determining the Effects of Multicultural Education on the Concern Levels of Preservice Teachers in the South

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Paula E. Faulkner, North Carolina A&T University
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This descriptive, causal-comparative census study of preservice agriculture education teachers (n = 312) enrolled in universities throughout the south sought to determine a difference in multicultural teaching concern. Variables in the study consisted of preservice teachers with a with/without a multicultural education requirement, and preservice teachers with a multicultural education requirement that is taught by an agriculture teacher educator. Results show a negligible effect size in teaching concern between preservice teachers who have a multicultural education course requirement and preservice teachers that do not. However, significant differences exist in teaching concern when an agricultural education teacher educator taught the multicultural education course. With the theory of Gay and Kirkland's (2003) theory of cultural critical consciousness and self-reflection, the researchers provided recommendations for teacher educators, practicing teachers, organizations affiliated with agricultural education, and preservice teachers.

Agrarianism: A Philosophy of the National FFA Organization

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Tracy Kitchel, University of Missouri

The traditions of the National FFA Organization are grounded in an agrarian ideal. This root of this agrarian ideal is the southern agrarian philosophy. Agrarianism has been an important thread of American philosophy since the founding of country. The agrarian philosophy that resonated in rural America during the formation of the FFA was southern agrarianism. Southern agrarian philosophy argued for such ideals as the yeoman farmer, individualism, self-reliance, honoring community and family, and adhering to the traditions of American. These concepts appear in the FFA traditions of the Creed, Opening Ceremony, Motto, and awards even today. The historical growth and success of the FFA within rural communities demonstrates the ability of the southern agrarian philosophy to resonate with contemporary rural values. However, the southern agrarian philosophy may not resonate with the culture of suburban and urban students. Advisors of suburban and urban FFA chapters may need to reconceptualize the FFA traditions to meet the cultural needs of their students.

Connecting Farm Field Trips with Classroom Curriculum

Robyn Stewart, Cornell University

The growing distance of consumers from the source of their food increases the necessity of developing agricultural literacy. Educational farms can provide authentic learning experiences and facilitate connections to the land, to food sources, to one another, and to classroom learning. Field trips can introduce youth from nonagricultural backgrounds to farms and offer a variety of cognitive, social, and affective benefits. A valuable field trip helps students make connections to the classroom. Grounded in experiential learning, informal education, and place-based education, and supported by research on learning in museums and on field trips, this study investigated the curricular connections made by classroom teachers and farm educators when taking field trips to farms. Interviews with three farm educators and with classroom teachers visiting the farms with their classes explored the curricular connections made and the ways educators worked together to connect farm and classroom. Inductive analysis identified emergent themes in curricular connections. Findings indicate that teachers connect a farm field trip with units on animals, plants, soils, communities, and life cycles. Classroom teachers and farm educators work both together and separately to connect a field trip to the classroom and to learning standards.

A Case Study of Managing a School-Based Agriculture Program in a Diverse, Rural Community

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Anna Henry, University of Missouri

The purpose of this case study was to gain a deeper understanding of the ways that agriculture teachers in a diverse, low socio-economic rural school manage a school-based program. A case study approach was utilized to provide a rich description of the unique environment of the case as well as the strategies employed by the teachers in the case. Individual interviews and field notes from an on-site observation provided the data for the case. The five themes that emerged from the data in this study were: (a) support, (b) connectedness, (c) diversity, (d) challenges, and (e) drive. The findings indicate that the teachers in this case utilized tacit strategies to manage the school-based agriculture program that could potentially be adopted by teachers in diverse, low socioeconomic, rural schools. The findings of the study provide useful information for teacher preparation programs such as offering strategies to future teachers in the areas of (a) increasing program support and building connections among all stakeholders, (b) balancing demands, creating a welcoming environment for diverse students, and offsetting program expense for their students, as well as (c) techniques in self and student motivation.

Examining Two Decades of Agricultural Literacy Research: A Synthesis of Findings

Kristin Kovar, University of Missouri

Anna Henry, University of Missouri

*The purpose of this investigation was to identify and synthesize research related to agricultural literacy since the publication of *Understanding Agriculture—New Directions for Education* (1988). In synthesizing the research, the researcher sought to determine where agricultural literacy research was published, the populations targeted, the purpose of the research, and the findings of agricultural literacy studies. Overall, a total of 49 studies were found; 17 studies in the *Journal of Agricultural Education*, seven studies in the *NACTA Journal*, three studies in the *Journal of Extension*, 18 studies in national or regional American Association for Agricultural Education (AAAE) conference proceedings, and four miscellaneous studies were identified. The populations targeted in agricultural literacy research were teachers, students, and non-educator adults with elementary teachers and students being the most targeted populations. The purpose of each study was then coded into three specific areas: those (a) assessing agricultural literacy; (b) testing the effectiveness of an agricultural literacy program; or (c) developing a document that could be used as a guide to assist educators. Findings indicated populations were categorized into literate, somewhat knowledgeable, or illiterate in regards to agriculture. Findings also indicated completion of an educational program resulted in an increase in agricultural literacy.*

**Using Mental Models to Depict Effective Teaching in Agricultural Education:
How Students Draw their Perception of Teaching Agriculture**

J. Shane Robinson, Oklahoma State University
Kathleen D. Kelsey, Oklahoma State University
Robert Terry, Jr., Oklahoma State University

One of the intended outcomes of agriculture teacher education programs is the progressive development and refinement of students' professional philosophy. The purpose of this study was to determine the extent to which pre-service agriculture teachers' mental models depicting the duties and responsibilities of school-based agriculture teachers changed semester-long teacher education course. Students were assigned to draw their image of an effective agriculture teacher at three points during the semester. Those images served as the data collection instrument for this research. Four themes emerged from these data: instruction, settings, curricular diversity, and engagement. Measures of these mental models increased most between the first and second data collection points. Yet, those measures decreased between the second and third data collection points. It is recommended that this study be replicated over students' entire teacher preparation experience to determine how their professional philosophy is impacted by various treatments of the pre-service teacher education program.

The Effects of a Technology-Mediated Animal Science Unit on Community College Students' Knowledge and Motivation

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This study investigated the effects of an active-learning technology-mediated unit on community college students' knowledge and perceptions of the learning experience in an introductory animal science course. Differences in learning outcomes were also explored regarding the students learning preferences. Overall, students had significant gains in knowledge of animal nutrition in both sections (technology-mediated vs. traditional lecture). Specifically, students in the technology-mediated section had higher levels of knowledge comprehension on the unit exam. Regarding the students' perceptions of the learning experience, students in the traditional lecture and technology-mediated groups similarly reported they valued the learning experience both intrinsically and extrinsically. Finally, there were a few notable differences in learning outcomes based on learning preferences between and within the two groups. For example, students with behaviorist learning preferences performed higher than students who preferred constructivist learning on applying knowledge, in both, the traditional lecture as well as those in the technology-mediated learning experiences. Moreover, students with constructivist learning preferences in the technology-mediated section had negative perceptions of the learning experience and lower intrinsic value than students with constructivist preferences in the traditional lecture group. This study provides preliminary support for using e-learning as pedagogy for introductory agriculture courses at two-year postsecondary institutions.

Agriscience Teachers' Confidence to Teach Biology in Plant and Animal Science Courses

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The primary purpose of this study was to determine the confidence levels of agricultural science teachers to integrate biology concepts in plant and animal science classes. The researchers also sought to describe the demographic characteristics of New Mexico agricultural science teachers. This study utilized a descriptive-correlational research design. Teachers were asked to identify their confidence levels to teach the state standards of the animal science and plant science course that matched course objectives in biology and life science. Most participants were found to be teachers with the average age of 39 who had a mean of 13 years teaching experience. The majority of New Mexico agricultural science teachers had received their secondary science teacher certification and over 70% had obtained their masters degree. Teachers felt the least confident to teach the processes of cell division, including binary fission, mitosis, and meiosis. Teachers felt the most confident integrating biology concepts within lessons dealing with; the nutrients required by plants, how they obtain and transport those nutrients, as well as teaching the evolution of plants from green algae. The findings suggest that there are some relationships between years of teaching experience, school size, and teachers receiving the science certification.

**Toward a Framework for Effective Teaching in Agricultural Education:
A Multi-State Factor-Analytic and Psychometric Analysis of Effective Teaching**

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Research on effective teaching has been conducted in a variety of settings for more than 40 years. A valuable component of a larger sequential mixed method study addressing effective teaching in formal and non-formal agricultural education, this study provides direction for future effective teaching research in secondary agricultural education. Specifically, the 142 behaviors, characteristics, and techniques considered indicative of effective teaching were reassessed to reduce the number of competencies and identify constructs of effective teaching in agricultural education. A total of 1,631 secondary agriculture teachers from 37 states surveyed in the fall of 2011 served as the population for this study. Fifty effective teaching competencies in 10 constructs were identified to evaluate effective teaching. The psychometric evaluation of the 10 constructs resulted in Cronbach's alpha coefficients ranging from .83 to .93, supporting the reliability of the identified constructions. An expert panel then named the constructs that emerged; many of the constructs aligned with those identified through previous teaching effectiveness research. Numerous implications for practice and research resulted from this study, including a proposed framework for assessing effective teaching in agricultural education, which includes the utilization of self-evaluation, formal observation, and student achievement data.

Higher Order Thinking Skills as Demonstrated in Synchronous and Asynchronous Online College Discussion Posts

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Developing higher order thinking skills in students is an important task for higher education. Students who are competent analyzers, synthesizers, and evaluators become workers who are better prepared for the work challenges they will face. Rapid rates of technological advancements have developed a need for workers who are able to repeatedly learn and adapt. Class discussion, a long-standing and well-regarded instructional method, in online classes is either synchronous or asynchronous. Synchronous discussion is in real-time, often using chat or messaging applications. Asynchronous discussion usually uses online discussion boards where students respond to comments and questions from class-members. The intention of this study was to explore what higher order thinking skills develop naturally via student social constructivism. This exploratory study measured instances of higher order thinking skills in synchronous and asynchronous online discussion using the Florida Taxonomy of Cognitive Behavior. In this study, overall synchronous discussion was found to be at the knowledge level and overall asynchronous discussion was at the comprehension level. An experiment was conducted comparing overall cognitive levels of synchronous and asynchronous online discussion and a statistically significant difference in the overall cognitive level of comments between the two groups was found.

An Examination of the Learning Activities, Cognitive Level of Instruction, and Teacher Immediacy Behaviors of Successful Instructors in a College of Agriculture

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The National Research Council (NRC) has indicated that effective instruction in colleges of agriculture should prepare students to enter a dynamically changing workplace, by helping students learn to be proficient in 21st century skills. The NRC suggested that effective instruction in colleges of agriculture should encompass a hospitable learning environment that includes a variety of learning activities that reach higher levels of cognition. The purpose of this study was to observe instructors in a college of agriculture who have been deemed successful and examine their teaching behaviors. This study investigated the learning activities used by these instructors, the cognitive level of instruction, and the teaching immediacy behaviors employed. Results revealed that these successful instructors use lecture a majority of the time, however, they also employ a variety of learning activities, such as cooperative learning, discussion, questioning, and individualized application. Additionally, these instructors mostly teach at lower cognitive levels, except when using cooperative learning. Furthermore, results showed that these successful instructors exhibit a moderate number of positive teaching immediacy behaviors.

An Experimental Study of Critical Reflection

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The purpose of this experimental study was to describe the reflective thinking level of students both overall as well as to compare the effect of a reflective feedback conference on students' reflective thought by experimental group. All students enrolled in a Methods course participated in the study and were assigned to either a treatment or placebo group. All students had an instructor-led feedback conference with the treatment group receiving a reflective conference and the placebo group receiving feedback without the opportunity to reflect. Both groups then completed an instrument with 3 reflective questions. This experience was repeated three times during the semester. Most of the students' responses were either technical or descriptive in nature. None of the students were critically reflective. Overall, students who received the treatment showed no difference during the first two rounds, but gave a more critical answer during their third and final reflection. Cohen's d showed a small effect size.

The Effects of Teacher Learning Style on Student Knowledge Gain in a Leadership Camp Setting: A Repeated-Measures Experiment

Nicholas R. Brown, Oklahoma State University
Robert Terry, Jr., Oklahoma State University

While the National FFA Organization provides leadership education content through its annual national convention and conferences, such as the Washington Leadership Conference, many state associations host camps. The purpose of this split-plot factorial repeated-measures experiment was to assess the level of campers' learning of the curriculum taught during small group breakout sessions and to study the effects of the learning style of camp Small Group Leaders on student knowledge gain of camp curriculum measured by pre-test and post-test scores. Analysis of variance was utilized to test null hypotheses using an F-ratio to determine the significance ($\alpha = .05$) Although there was a significant difference between pre-test and post-test scores, the interaction of test scores and SGL learning style failed to produce a statistically significant interaction; therefore, there was no significant treatment effect by SGL learning style. Recommendations for camp leaders in response to study results include regular summative assessments of the camp experience, annual evaluations of Small Group Leaders and campers, and the formation of instructional standards and learning goals. Further research was recommended in the impact of teacher learning styles on student academic performance in informal educational settings.

Examining the Agricultural Education Fishbowl: Understanding Perspectives of Agricultural Education Stakeholders in Higher Education

Marshall A. Baker, Oklahoma State University
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The purpose of this study was to better understand the perspectives of individuals in higher education regarding agricultural education to enhance collaboration. Using Q-methodology to capture subjective perspectives of agricultural education, this study identified the perspectives of 23 key stakeholders in higher education. Analysis resulted in three perspectives of agricultural education: (a) Supportive Idealist, (b) Critical Academic, and (c) Progressive Agricultural Educator. The supportive idealist typology represents an overall positive view of agricultural education that sees the benefit of the program to public schools. Critical academics, typically defined by lab scientists, believe that agricultural education lacks the academic rigor to consider itself a deliverer of core academic content, and they hold a somewhat negative view of the program as it stands today. Progressive agricultural educators value the program and recognize that agricultural education serves as a support to core content instruction; yet, not the sole provider of core math, science, and reading concepts. Using Social Judgment Theory, keys for collaboration are presented for each perspective.

An Analysis of FFA Chapter Demographics as Compared to Schools and Communities

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Corliss Outley, Texas A&M University

This study is directly tied to Research Priorities Four, Five, and Six of the National Research Agenda for Agricultural Education (2011). This descriptive study was conducted as a special project of the National FFA Organization to determine the demographic makeup of rural, suburban, urban, and randomly selected at-large FFA Chapters from the four national FFA Regions. Summary data reveal that gender in selected FFA chapters is 55% male and 45% female. Eighty percent of FFA members are white in terms of ethnicity. Surrounding communities, on average, are 54% of the communities these chapters reside in being white in ethnicity. Rural FFA chapters had the highest percentage of FFA members in relation to their agricultural education course enrollments. Urban chapters only reported slightly over half (52%) of their agricultural education students being members of FFA. The majority of agricultural education teachers are white males. The demographic characteristics from FFA chapter to school and community may provide a snapshot of today's agricultural education and FFA programs that will help identify strategies to move the organization toward a true representation of the schools and communities they exist in.

A Qualitative Analysis of North Carolina Lateral Entry Teachers Perceived Ability to Lead Quality FFA Programs

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D. Barry Croom, North Carolina State University

Due to the persistent shortage of traditionally certified teachers, an increasing number of lateral entry teachers are being hired to fill vacant positions. Agricultural education has also experienced a comparable growth of lateral entry teachers entering the profession. The primary purpose of this study was to identify lateral entry teachers' perceived ability in advising quality FFA Chapters. Four lateral entry teachers who advise FFA chapters in North Carolina were interviewed. In addition to interviews, the researcher observed participants advising students during chapter meetings or other FFA activities. Artifacts were also collected in order to detail the activities and opportunities each participant was providing their students. All participants had been previously involved in FFA or 4-H. Participants' FFA chapters participated in a multitude of events at the chapter, regional, state, and national level. All participants expressed high levels of self-efficacy specific to FFA advisement.

The Value Principals Place on Human Capital in Agricultural Education: Implications for Pre-service Teachers

J. Shane Robinson, Oklahoma State University
Marshall A. Baker, Oklahoma State University

The purpose of this experimental study was to determine which factors of human capital were valued most by principals regarding their decisions to interview the applicants based on teacher resumes. The findings of this study point to the fact that principals desire teachers who are academically rigorous. That is, they desire teachers who have strong grade point averages, have been recognized in honor societies for their academics, and have taken elevated, rigorous coursework above and beyond what a typical agricultural education major would be required to take. The sex and certification route of teacher candidates had no bearing on principals' decision to offer an interview to the candidates. The fact that principals placed little value on certification type is concerning. It is recommended that this study be replicated in other states across the country to determine the prototypical agriculture teacher. It is assumed that the needs will vary from state to state. However, additional research is needed in this area.