

Multistate Agricultural Literacy Research Committee (W2006) Meeting
May 15, 2018
Francis Marion Hotel
Charleston, SC

Members Present:

Kellie Enns, Colorado State University kellie.enns@colostate.edu
Michael Martin, Colorado State University (chair) Michael.j.martin@colostate.edu
Debra Spielmaker, Utah State University debra.spielmaker@usu.edu
Denise Stewardson, Utah State University (secretary) denise.stewardson@usu.edu
Kathryn Stofer, University of Florida stofer@ufl.edu
Brian Warnick, Utah State University (administrative advisor), brian.warnick@usu.edu

Guests Present:

Elke Grether, North Carolina State University ekgrethe@ncsu.edu
Carley Morrison, Mississippi State University carley.c.morrison@msstate.edu
Matt Kararo, Florida International University mkararo@fiu.edu
Mingla Charoenmuang, Purdue University mcharoen@purdue.edu
Lisa Taylor, University of Nevada-Reno taylor1@unce.unr.edu

Members Absent:

Kimberly Bellah, Murray State University, kbellah@murraystate.edu
Kevin Curry, Pennsylvania State University kxc554@psu.edu (newly registered)
Cory Forbes, University of Nebraska cory.forbes@unl.edu
Gaea Hock, Kansas State University ghock@ksu.edu
Carl Igo, Montana State University cigo@montana.edu
Matthew Mars, University of Arizona mmars@email.arizona.edu
Robert Martin, Iowa State University drmartin@iastate.edu
Jennifer Melander, Nebraska Cooperative Extension jmelander7@unl.edu
Cary Trexler, University of California, Davis cjtrexler@ucdavis.edu
Jonathan Velez, Oregon State University jonathan.velez@oregonstate.edu
Ania Wiczorek, University of Hawaii ania@hawaii.edu

Mike Martin, committee chair, called the meeting to order at 8:40 AM and reviewed the meeting agenda.

Members and guests of the committee introduced themselves.

Motion by Debra Spielmaker to approve minutes of the September 2017, meeting in Fort Collins, CO; seconded by Elle Grether. Motion passed.

Martin reviewed committee goals:

1. Assess agricultural knowledge of diverse segments of the population: a) What are the points of acquisition of agricultural knowledge? b) What decisions are made based upon assessed knowledge?

2. Assess attitudes and perceptions and motivations concerning agriculture of diverse segments of the population. a) How are perceptions, attitudes and motivations developed? b) What decisions are made based upon assessed attitudes, perceptions and motivations?
3. Evaluate agricultural literacy programs to measure the program impact. a) What is effective programming? b) What is the impact of effective programming, both short-term and longitudinal? c) What knowledge, attitudes, and motivations exist for individuals that participate in agricultural literacy initiatives (formal programs, informal programs, voluntary programs)?

Members and guests described their research work:

Michael Martin—Colorado State University

- Working with Denver Botanical Gardens; talking broadly about agriculture: climate change, urban gardening
- National Stock Show in Denver: Western activities; \$1.3 Billion
- Coordinating potential agricultural literacy activities in conjunction with National Stock Show; edutainment
- Restarted Master's in Extension Education at Colorado State University
- 15 students in first year
- Martin teaches Agrarian Ideologies and Values course
- Spielmaker asked Martin to share syllabus; *Mike will give it to the group (or make syllabus public on Canvas)*
- Mike—debating possibility of Diversity in Agriculture class at undergraduate level

Elke Grether—North Carolina University

- Researching how to build agricultural literacy via agritourism (authentic learning experiences)
- Creating evaluation platform: agricultural literacy logic model with environmental model
- Using four constructs: knowledge, affective, cognitive skills, behavior
- Data collection starting for evaluation piece; looking for feedback/improvement
- Partner with other universities to build out evaluation piece for other objectives, i.e., break down agricultural literacy with help from Travis Park, objective-based approach to agricultural literacy; evaluate the objective resulting in a smaller instrument for use by teachers and nonformal educators
- Age group: 4th graders
- Pilot testing 50-100 students
- Not out in field yet; developing evaluation instrument to use with 3000 students

Carley Morrison—Mississippi State University

- Farmtastic at Mississippi State funded in part by Extension
- Tests curriculum interactive day of agriculture with students (grades K-3); evaluation being developed
- iFarm is new summer camp program as follow-up to Farmtastic

- New internal grant—farm tour with parents and caregivers; community market and farm tour (bucks given to parents to buy local products). Meet farmers as producers. Challenge is lack of buy-in from city; farmers are very supportive. Purpose is community for low socioeconomic demographic.
- Boys & Girls Club interested in doing similar tours with youth; Carley may facilitate tour
- Revising Agriculture in the Classroom curriculum for Mississippi; evaluate effectiveness
- Spielmaker encouraged use of [National Agricultural Literacy Curriculum Matrix](#) and focus on middle/high school (critical thinking for older students); Stewardson offered to talk with Morrison about Utah AITC's partnership

Matt Kararo—Florida International University

- Science in the Classroom pedagogical instrument (scienceintheclassroom.org)
- Tool takes scientific primary literature; annotates it to help students read scientific literacy (includes glossary)
- Developing evaluation tools in scientific and research literacy at undergraduate level
- Strong agriculture context
- Sending national survey to teachers: do they use scientific literature in classroom? Plan is to build professional development resource
- Annotations are distributed via [American Association for the Advancement of Science](#) (AAAS)
- Co-teaches course called Big Ideas in Biology
- Vision and change statement from AAAS; what biology students should know
- Incorporated literature as base for content in class; core concepts (4) and competencies from AAAS
- Teaches students how to think: develops scientific and research literacy in students
- *Will share syllabus with Martin for distribution*

Lisa Taylor—University of Nevada-Reno

- Former experience with traveling agricultural literacy program in Oklahoma
- Currently looking at opportunities to work with agricultural literacy research
- Spielmaker encouraged Taylor to connect with Amber Smyer, state contact for Nevada AITC asmeyer@agri.nv.gov

Debra Spielmaker—Utah State University

- Creating a focus group for National Center for Agricultural Literacy (NCAL)
- Wikipages is closing; consequently, a new website is currently in development to maintain resources (“Influential Research”) relevant to agricultural literacy research
- Reminded committee that NIMMS reporting is required on multistate committee's three objectives of W2006
- Published framework poster on agliteracy.org; she curates research to assist other researchers, especially graduate students
- Assessments, research, instruments are curated on that site—all related to W2006 objectives

- Works with Objective 1 (agricultural knowledge) for K-12, assessing knowledge level using project-based learning; funding being sought
- and Objective 3 (evaluation and assessment)
- NCAL Goals: Curriculum, professional development, research; focus on middle/high school due to plethora of resources in elementary grades
- NCAL team focusing on STEM connections in curriculum resources; presented sessions at National Agriculture in the Classroom's Leadership Summit (April 2018) on storylines, episodes, and phenomenon
- Evaluations: housed in Qualtrics, Survey Monkey; working to provide those instruments in format that is available to anyone interesting in using these instruments
- USU graduate student is researching effectiveness of mobile agricultural literacy labs
- National Agricultural Literacy Outcomes (NALOs) being evaluated on grades 2 and 5 as follow-up on Leising research; creating assessment tools for teachers
- Dr. Max Longhurst and Rose Judd-Murray (graduate student) at Utah State University testing reliability and validity of items; will publish in database for educators' use
- Judd-Murray is working on same assessment with high school students (grades 9-11)

Grether is investigating intergenerational transfer and its impact on learning.

Martin has graduate student looking at groups doing outreach and what *kind* of evaluation or survey is most appropriate, i.e. "evaluation rubric." HOW should we collect data?

Enns: "How do we measure agricultural literacy?"

Morrison: Have we looked at how teachers are teaching? Does that make a difference?

Discussion ensued by entire group about the definition of agricultural literacy, awareness of teachers regarding that definition, how to collect data from students and where it is "categorized": knowledge, behavior, attitudes.

Purpose of agricultural literacy has shifted the past two years to include "value"—Do I care about agriculture?

Efforts in professional development are needed to assist teachers in engaging students in critical thinking exercises, challenging students to encounter an opposing side and how to appropriately respond to those views.

Research teachers' strategies of teaching; what do teachers need to implement more critical thinking, problem-based learning. Do teachers know how to use these resources?

How do researchers build and evaluate instruments to measure agricultural literacy, especially if the definition of agricultural literacy is shifting? Teachers need help in understanding what is expected in regards to students' agricultural literacy—looking past knowledge to higher levels of understanding.

Morrison asked about agriculture teachers' perceptions of AITC resources. Spielmaker explained the use of AITC resources: free, easy-to-use, tied to standards. Target audience is not agriculture teachers. NAITC targets more mainstream audience, i.e., science and social studies classrooms; however, agriculture teachers use lessons to address agricultural literacy.

Martin discussed challenge in making research known.

Warnick: AES final report due at the end of 2018.

Katie Stofer—University of Florida

Working on issues of broader public engagement (fluency, literacy)

Teacher professional development—getting more authentic science in agriculture lessons in the classroom

Working on a game on food production; surviving an apocalypse and growing food (grades 9-12)

Pest management for home owners via Extension agents

Enns—Colorado State University

Research on how agricultural literacy is assessed via coursework; de-silo majors

Stewardson

Presenting at NAITCO annual conference on how to engage students in issues-based topics

Interested in program evaluation instrument for AITC

Working with USU colleagues on implementing sustainability across the curriculum campus-wide

Martin:

New ideas for multistate group? Poster at research conference, journal article, national research agenda?

- Update: Shepherding a paper with Debra Spielmaker, Gaea Hock, Kathryn Stofer, Kim Bellah, Kellie Enns, Alan Witt, others? (Martin)
- Western Region submission on categorization, evaluation strategies—possible poster (Martin)
- IRB issues—how can challenges of approval be met? Perhaps collaboration with others to ease the process (Spielmaker)
- NIFA-AFRI grant for career-based education for teacher professional development; we welcome other states to collaborate (Spielmaker and Stewardson)
- Critical pedagogy work with Alan Witt (Martin)
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Martin: Any ideas that haven't been covered?

- Morrison: Need for a different term for agricultural literacy? Response: Group has discussed this in depth; recognize that this term is the one recognized within our organizations, and until something different/better is created, this group is best served by using this term. Other possible terms: modern agriculture, big picture agriculture. Stofer: AAAS is using term “engagement” which provides opportunity for wider perspective.
- What five experiences should students have? This is in addition to the knowledge level. In other words, what are the high impact practices recommended for agricultural literacy?

Use a teaching strategy to identify the high impact experiences for students:

- Reflection cards
- Debates

- Professional luncheon with stakeholders
- Specific problem-based learning simulation
- Field trip
- Envirothon—national natural resources competition
- Service learning/community engagement

Emphasis on pre- and post-experience complete with reflection; develop a framework for these experiences for both students AND teachers.

Perhaps compile a “badge” or “learning menu” of high impact practices (experiences) related to NALOs, national standards, core state standards.

September 30, 2019—final AES report due for reauthorization.

The aforementioned strategy will be a framework for projected research.

Looking forward: Need to focus on evaluation tools as part of committee work.

Next meeting of W2006: AAAE Western Region Meeting, Boise, ID, September 17-19, 2018.

Special opportunity to meet with Sarah Lupis of Multistate to learn about writing impact statements.

Meeting adjourned at 12:10 PM.