

ТНОТН

FALL 2018 Volume 3, Issue 1

A Publication of the Education Division of the Council on Undergraduate Research



Message from the Division Chair

Music—lyrics, instrumental, full orchestra, cultural storytellers and children's choirs—is a source of inspiration, exhilaration and motivation. Recently, music has been the prompt in the appropriate conduct of

my life and specifically my professional work. In its many formats, songs of inspiration have accompanied me throughout the design, implementation and the follow through of the CUR Inaugural Education Institute (October 12–14 at the College of New Jersey). Now, the lyrics and music of one song seems to be on continuous replay in my mind: "A Million Dreams" from the show *The Greatest Showman*. You can view/listen to <u>one version</u> rendered by the Children of Hope Choir. An excerpt from the lyrics hold the magic:

I close my eyes and I can see The world that's waiting up for me That I call my own Through the dark, through the door Through where no one's been before But it feels like home They can say, they can say it all sounds crazy They can say, they can say I've lost my mind I don't care, I don't care, so call me crazy We can live in a world that we design

The lyrics can easily describe the work that we did at the institute; we engaged in lively small-group/ team discussions and activities under the direction of the institute facilitators. Through these activities, each team constructed its action plan to guide further work at each respective institution. Facilitators and faculty participants from schools of education from Colorado, Maryland, New Jersey, Oklahoma, Pennsylvania, and Wisconsin left the institute for "a world that's waiting up for" us.

continued on next page

About CUR's Education Division

The Education Division of the Council on Undergraduate Research provides networking opportunities, activities, and resources to assist education administrators, faculty members, students, practitioners, and others in advancing undergraduate research.

- Newsletter Editor Deborah L. Thompson, TCNJ thompson@tcnj.edu
- Division Chair Ruth J. Palmer, TCNJ palmerrj@tcnj.edu
- Editorial and Layout Assistance Elizabeth Foxwell, CUR

The Council on Undergraduate Research 734 15th Street, NW • Suite 850 Washington, DC 20005-1013 Tel: 202/793-4810 • Email: <u>CUR@cur.org</u> WWW: <u>www.cur.org</u> Follow us on Facebook, LinkedIn, and Twitter

Copyright © 2018 Council on Undergraduate Research

Inside this issue...

CUR Research Award Winners	. 2
ED Division Institute	. 3–4
Exposing Agricultural Education Undergraduates to Research Experiences	. 5–6
Editor's Corner	. 7
<i>Spotlight on</i> Suzanne Lindt, Michael Nelson	. 10–11
Posters on the Hill	. 12

Division Chair

continued from page 1

Mentored research, in all its forms, is more than just skills and competencies. When it is made available to all learners at all developmental levels and of high quality, it reflects activist teaching and active engaged learning. Thus, facultystudent scholarly and creative collaboration yields reciprocal benefits for participants that are academic/professional (Hunter, Laursen, & Seymour, 2006), personal/cultural and affective/emotional (Palmer et al. 2018); it shapes selfperception/identity (Kasworm 2008) and influences future orientation (Hathaway, Nagda, and Gregerman 2002). Malachowski and colleagues (2014) describe the role of CUR Institute participants as that of leading a transformative change process on campuses and beyond; this leadership role must be undertaken, not with fear but with the awe, wonder, and curiosity that drive creativity and innovation.

On behalf of the membership of the Education Division, I congratulate the participants of the CUR inaugural Education Institute and pledge the division's support of your singular yet collective efforts to ensure that undergraduate research becomes standard in every school of education undergraduate program. I urge all Education Division members and leaders in schools of education and related fields to follow their lead and participate in this growing work as framed in the action plans generated at the institute for the "world that we design."

Please share with me the music that inspires your CUR work.•

References

Hathaway, Russel S., Biren A. Nagda, and Sandra R. Gregerman. 2002. The Relationship of Undergraduate Research Participation to Graduate and Professional Education Pursuit: An Empirical Study. *Journal of College Student Development* 43: 614–631.

Hunter, Anne-Barrie B., Sandra L. Laursen, and Elaine Seymour. 2006. Becoming a Scientist: The Role of Undergraduate Research in Students' Cognitive, Personal, and Professional Development. *Science Education* 91(1): 36–74.

Kasworm, Carol E. 2008. Emotional Challenges of Adult Learners in Higher Education. *New Directions for Adult and Continuing Education* 120: 27–34.

Malachowski, Mitchell, Nancy Hensel, Elizabeth Ambos, Kerry Karukstis, and Jeffrey Osborn. 2014. The Evolution of CUR Institutes: From Serving Individuals to Serving Campuses, Systems, and Consortia. *CUR Quarterly* 35(1): 34–35.

Palmer, Ruth J., Andrea N. Hunt, Michael R. Neal, and Brad Wuetherick. 2018. The Influence of Mentored Undergraduate Research on Students' Identity Development. *Scholarship & Practice of Undergraduate Research* 2(2): Forthcoming.

CUR Education Division Faculty-Student Collaborative Research in Education Awards

Student Awardee Nicholas Brummitt Carthage College, Kenosha, WI Major: PE Sport and Fitness Minors: Education and Health

Project Title: Effect of Physical Classroom Environment on Student Perceptions of Learning

Faculty Mentors: Cynthia Allen and Rebekah Johnson

Contact: nbrummitt@carthage.edu; callen1@carthage.edu

Faculty Awardee

Claire McLeod Dept of Geology and Environmental Earth Science Miami University, Oxford, OH Undergraduate Student: Elizabeth Angi-O'Brien

Project Title: Let's Get Interactive! How Do Teaching Styles Influence Student Learning (a course-embedded research project)

Contact: mcleodcl@miamioh.edu; obrien3@miamioh.edu

Important Events and Dates

CUR Dialogues February 14–17, 2019 Early-bird registration deadline: December 14, 2018 Arlington, VA

National Conference on Undergraduate Research

April 11–13, 2019 Kennesaw State University • Kennesaw, GA Faculty-Administrator Network session deadline: December 11, 2018 Art Competition deadline: March 21, 2019

Undergraduate Research Week April 8–12, 2019

Second World Congress on Undergraduate Research May 23–25, 2019 Carl von Ossietzky University • Oldenburg, Germany

Annual Business Meeting

June 25–27, 2019 The Ohio State University • Columbus, OH

CUR Education Division's Inaugural Fall Institute October 12–14, 2018 · The College of New Jersey

The CUR Education Division held its first institute on October 12–14, 2018, led by division chair Ruth J. Palmer. Participants from schools of education from the University of Colorado Denver, the University of Wisconsin–Eau Claire, Indiana University of Pennsylvania, Salisbury University (MD), Southern Nazarene University (OK), and the College of New Jersey attended the institute. Lead facilitators Jenn Manak (Rollins College, FL) and Dennis Munk (Carthage College, WI) challenged the participants to envision and create laction plans that would help each institution fulfill the goal of implementing or enhancing the undergraduate research programs in their respective schools of education.



Team participants from University of Colorado Denver





Team from the College of New Jersey





Team participant from University of Colorado Denver



Facilitator Dennis Munk leading a small-group discussion



Team TCNJ participants David Bwire and Arti Joshi



CUR Education Division's Inaugural Fall Institute October 12–14, 2018 · The College of New Jersey

Exposing Agricultural Education Undergraduates to Research Experiences

Paula E. Faulkner

As an agricultural educator, I am charged with continuing to seek methods, models, and programs which best educate the public and policymakers about the important and vital work occurring in the agricultural industry (Roberts, Harder, & Brashears, 2016). To help my students become exemplary educators/professionals in the food, natural resources, and agricultural sciences, I provide formal and nonformal learning environments.

In this essay, I will provide a few facts about the students I instruct and the experiences I provide. My agricultural education program is an online program which serves students locally and throughout North Carolina and the United States. The students have a choice of four majors: secondary education (undergraduate), teacher education (graduate), and professional services (undergraduate and graduate). Although academics is the main focus of the Agricultural Education program, I try to find ways to include my students—namely undergraduate students—with other experiences during their college tenure. Experiential learning is one such possibility.

Experiential Learning

Experiential learning is a hallmark of undergraduate education programs in the agricultural sciences (Andreasen 2004). Splan, Porr, and Broyles (2011, 1) followed with "undergraduate research being a particular experiential learning context which extends a student's knowledge to scholarly application through discovery–based problem solving."

Examples of experiential learning experiences include: student teaching and internships (with an embedded undergraduate research component), fieldwork, practicums, study abroad, and volunteering (service learning). While some of our students participate in one or more of the above experiences, undergraduate research ranks as one of the lowest, thus my push to get more undergraduates involved.

Undergraduate Research in Agricultural Education

First, undergraduate research (UR) is a form of experiential learning that extends a student's knowledge to schol-

Paula E. Faulkner is associate professor in the Department of Agribusiness, Applied Economics and Agriscience Education at North Carolina A & T State University in Greensboro, NC. Email: pefaulkn@ncat.edu. For more about Faulkner, read the Spotlight On... column in the fall 2017 issue of the newsletter.

arly application (Kinkead 2003). It can be broadly defined to include scientific inquiry, creative activity and scholarship. The Council on Undergraduate Research defines undergraduate research as an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline (Blockus 2016). Within the agricultural sciences (Agricultural Education), it [UR] is understood to result in the production of original work (for example, the plight of African American women farmers), which is informed by previous work and is built upon by other scholars, is subjected to critical evaluation by peers who represent the expertise of the profession or discipline, and is publicly disseminated (Glassick 2000). To ensure all students are at least informed about undergraduate research, I make sure to post announcements in all online courses about research.

Agricultural sciences can be a great opportunity to introduce students to undergraduate research; unfortunately, many are not provided the experience due to several factors, such as most faculty desiring to work primarily with graduate students, a lack of funding, a lack of faculty time, some faculty not receiving credit for working with undergraduate students and in my case, as an online instructor, students being at a distance which reduces student-faculty contact. A lack of resources and support (e.g., statistics, data analysis, writing), also pose issues with providing research exposure. However, there are some opportunities for undergraduate students can take advantage in UR such as NCUR (National Conferences on Undergraduate Research and ABCRMS (Annual Biomedical Research Conference for Minority Students).

In addition, our College of Agriculture and Environmental Sciences sponsors the Undergraduate Research Scholars Program (URSP). The URSP offers students the opportunity to be mentored by a research faculty on a research project. I have served as an URSP mentor twice. For example, I mentored one student who examined the reported knowledge and skills gained from undergraduate students' participating in workshops and conferences on leadership development. Another student studied how TV watching impacted teens' healthy eating choices.

continued on next page

Agricultural Education

continued from page 5

Our students also apply for the Summer Research Opportunities Program (SROP) that takes place at Big Ten Academic Alliance institutions such as the Pennsylvania State University. The goal of the SROP is to increase the number of underrepresented students who pursue graduate study and research careers.

My university holds Undergraduate Research Week, which allows students to present their work to the campus. Our college holds an event at the beginning of the fall semester where students who spent the summer on internships, study abroad, and research projects report their experiences via a poster session.

A new movement to develop course-based undergraduate research experiences (CUREs) is emerging, although the benefits of such programs have not yet been fully evaluated (Flaherty et al. 2017). Even if not fully evaluated, we know that when students are actively engaged in undergraduate research, they enjoy the learning process. They develop higher–order thinking skills through interactions with faculty mentors and peers while developing social and interpersonal skills (Splan et al. 2011).

While mentoring undergraduate students is extremely time-consuming (Malachowski 2003), despite these challenges, all should recognize that undergraduate research provides an excellent opportunity for faculty mentors to practice constructivist principles outside the traditional classroom setting, and the benefits for student learning are clear.•



Keep up with the content of Scholarship and Practice of Undergraduate Research (SPUR). Subscribe to the SPUR table of contents feed: https://bit.ly/SPUR-RSS

References

Andreasen, Randall J. 2004. Integrating Experiential Learning into College of Agriculture Capstone Courses: Implications and Applications for Practitioners. *NA CTA Journal* 48(3): 52–57.

Blockus, Linda. 2016. *Strengthening Research Experiences for Undergraduate STEM Students: The Co-curricular Model of the Research Experience*. Washington, DC: National Academies of Sciences, Engineering, and Medicine.

Flaherty, Elizabeth A., Sarah M. Walker, Jennifer H. Forrester, and Merav Ben-David. 2017. Effects of Course-Based Undergraduate Research Experiences (CURE) on Wildlife Students. *Wildlife Society Bulletin* 41(4): 701–711. doi: 10.1002/wsb.810

Glassick, Charles E. 2000. Boyer's Expanded Definitions of Scholarship, the Standards for Assessing Scholarship, and the Elusiveness of the Scholarship of Teaching. *A cademic Medicine* 75: 877–880. doi: 10.1097/00001888-200009000-00007

Kinkead, Joyce. 2003. Learning through Inquiry: An Overview of Undergraduate Research. *New Directions for Teaching and Learning* 93(2): 5–23. doi: 10.1002/tl.85

Malachowski, Mitchell R. 2003. A Research-across-the-Curriculum Movement. *New Directions for Teaching and Learning* 93(2): 55–68. doi: 10.1002/tl.88

Roberts, T. G., A. Harder, and M. T. Brashears. 2016. *American Association for Agricultural Education National Research Agenda: 2016–2020.* Gainesville, FL: Department of Agricultural Education and Communication. Documents/AAAE National Research Agenda 2016-2020.pdf

Splan, Rebecca K, C. A. Shea Porr, and Thomas W. Broyles. 2011. Undergraduate Research in Agriculture: Constructivism and Scholarship of Discovery. *Journal of A gricultural Education* 52(4): 56–64.

Editor's Corner: *George Washington's Breakfast*, or Encouraging and Nurturing Inquiry

Deborah L. Thompson

In a departure from my last two pieces, I am going to highlight a children's book, Jean Fritz's *George Washington's Breakfast*, because it shows how adults can encourage children's inquiry. This delightful book illustrated by Paul Galdone and published by Coward-McCann in 1969 is about young George Washington Allen who goes on an information quest to discover what his namesake ate for breakfast. While it is humorous, the book really is an excellent study of now adults can and should encourage and nurture inquiry—the lifeblood of research.

According to the story, when young George wanted to find something out, he asked questions, collected books, and pestered the adults around him for answers. His initial quest-what did George Washington eat for breakfast-led him to the local library. The librarian-who also liked to research questions for which she had no answers-directed him to the card catalogue (remember 1969), where she showed him how to select useful books on George Washington. She sent him home with a few books, and she promised to read through the remaining book to discover if any information on what Washington ate for breakfast could be found. With the help of his parents, George did learn that Washington was a very strong man. He learned a few things Washington's contemporaries John Adams and Thomas Jefferson had to say about him, but nothing about what he ate for breakfast. With the library trip yielding little in the way of information on Washington's breakfast fare, George's parents decided a trip to Mount Vernon might answer the question. This, too, turned up little in the way of what Washington ate for breakfast, but he did learn what people generally ate for breakfast but not specifically what Washington ate. Upon returning from Mount Vernon, a despondent George goes to his thinking spot in the attic. Under a pile of old comics, George finds one of his grandfather's books: The American Oracle by Samuel Stearns. Curious, George checks to see when the author lived (1791—Stearns was also a Washington contemporary) which meant he was reading "real-time" information about

Washington. Stearns had chapters on how to get rid of bedbugs; how to choose a wife; and, to young George's delight, a chapter on the character of Washington. In the chapter, there was indeed a discussion of what America's first president ate for breakfast. As per their agreement, his grandmother prepares him Washington's official breakfast. Upon completing his breakfast of hoecakes and three cups of tea, George wonders what Washington ate for lunch which goes to prove that good researchers always find new questions to answer.•

NEW from CUR! Excellence in Mentoring Undergraduate Research



Excellence in Mentoring Undergraduate Research



CUR Council on Undergraduate Research

This cross-disciplinary volume incorporates diverse perspectives on mentoring undergraduate research, including work from scholars at many different types of academic institutions in Australia, Canada, the United Kingdom, and the United States. It strives to extend the conversation on mentoring undergraduate research to enable scholars in all disciplines and a variety of institutional contexts to critically examine mentoring practices and the role of mentored undergraduate research in higher education.

To order, visit the <u>CUR Bookstore</u>.

Undergraduate Education Researchers Present Their Studies in Various Venues





Department of Education Poster Session at Rollins College (FL).

Photos courtesy of Jenn Manak





Student researchers at Midwestern State University (TX).

Photos courtesy of Suzanne Lindt and Stacia Miller





Kylie Brady and Rebecca Hinrichs, special education seniors at Georgia Southern University, presenting at Harvard University's National Collegiate Research Conference, Cambridge, MA, "Differing Methods of Behavior Management in Inclusive Classrooms." Photos courtesy of Kymberly Harris)

Spotlight On....

This issue's Spotlight is on CUR Education Division Councilors Suzanne Lindt (Midwestern State University, Wichita Falls, TX) and Michael Nelson (University of Central Oklahoma, Edmond, OK).



Suzanne F. Lindt

Current Position Associate Professor, Curriculum and Learning at Midwestern State University, Wichita Falls, TX

Educational Background

PhD: Educational Psychology (University of Houston) MS: Curriculum, Instruction, and Technology (Nova Southeastern University) BA: German (The University of Texas at Austin)

Research Focus

Engagement, Motivation, and Social/Emotional Development

Involvement in Undergraduate Research

Teaches undergraduate courses that incorporate research projects within them; has been involved in numerous independent research projects since 2013 with 11 different undergraduate students

Work with CUR Joined CUR in 2015 under a university membership; elected as CUR Education Councilor in 2017

Latest Publication

Miller, Stacia C., and Suzanne F. Lindt. 2018. Engaging Elementary Students through Movement Integration in Mathematics and Reading: An Exploratory Study to Understand Teachers' Perceptions. *Curriculum and Teaching Dialogue* 20(1): 31–43.



Michael Nelson

Current Position

Chair, Department of Educational Sciences, Foundations, and Research at the University of Central Oklahoma, Edmond, OK

Educational Background

PhD: Instructional Psychology and Technology (University of Oklahoma, Norman, OK) Secondary Science Certification (University of Oklahoma, Norman, OK) BS: Botany (Colorado State University, Ft. Collins, CO)

Research Focus

Implementation of Mind Brain Education principles into instructional practices at higher education; implementation of the "practice of science" by secondary science teachers; instructional effectiveness of earlycareer teachers

Involvement in Undergraduate Research

My primary involvement in undergraduate research has been with mentoring undergraduate research assistants. These students have been involved in investigating achievement motivation in high school students, an arts integration program, and the implementation of instructional practices based on Mind Brain Education.

Work with CUR

I reviewed proposals for the National Council on Undergraduate Research 2018 Conference in Edmond. Being elected to this position (Councilor) is my first serious involvement with CUR.

Latest Publication

Nelson, Michael, L. Nelson, and Shelby Buie. 2017. Supporting a Growth Mindset. In *Transforming Teaching and Learning through Brain Science*, ed. Tyler Weldon et al., 15–18. Edmond: University of Central Oklahoma.

Posters on the Hill

Each spring, students from across the nation gather in Washington, DC, to present original research at CUR's annual Posters on the Hill. This year's Posters on the Hill was held April 17–18, 2018, in Washington, DC. Three students from the CUR Education Division were selected to present at the event, and one was selected for honorable mention. These students, their mentors, and their institutions are listed below. Congratulations to these scholars and their mentors.

"The Evaluation of Home School Physical Education Participant Perceived versus Actual Level of Physical Activity." Student Researcher: Danielle Tilley Mentor: Megan M. Adkins Institution: University of Nebraska at Kearney

"STEAMgineers at Work." Student Researcher: Lauren Rose Smiarowski Mentor: Nirmala Prakash Institution: Florida Atlantic University

"Assessing the Effectiveness and Impact of a Large-Scale, Two-Semester, Course-Based Undergraduate Experience Focused on DNA-Barcoding for Introductory Biology Students." Student Researcher: Emily A. Miller Mentor: Joseph Harsh Institution: James Madison University

Honorable Mention

"Elementary School Outcomes Associated with Faster English Language Acquisition for Dual Language Learners." Student Researcher: Nadine E. Rozell Mentor: Adam Winsler Institution: George Mason University