

## **Background and Responsibilities**

I grew up in Fairfax, Virginia, a suburb of Washington, D.C. where I received very little exposure to agriculture. There was one working farm and a handful of high schools with greenhouses. As a college-track student, I was not involved in my high school's vocational agriculture program. In college I pursued a degree in Crop and Soil Environmental Sciences because of an interest in environmental topics, but I gravitated toward soil science because I discovered a desire to teach soil science and soil conservation in the Peace Corps. To better prepare for this experience, I pursued an MS degree in Career and Technical Education for exposure to the field of non-formal (extension) education in agriculture and natural resources (ANR). During my studies, I also gained an appreciation for the importance of formal ANR education, and I postponed my Peace Corps experience and began a career as a secondary ANR teacher at a small rural high school. This experience made me aware of changes needed in ANR education to insure the long-term viability and contribution of secondary ANR programs. I went on an intellectual quest to explore how best to address these needs in ANR education, completing a doctoral degree in Learning, Teaching, and Social Policy—a non-traditional education degree—at Cornell. I bring to my role at MSU a unique set of life and educational experiences that position me as a positive agent of change working to make Michigan State University (MSU) and the Department of Community, Agriculture, Recreation and Resources Studies (CARRS) leaders in bringing the scholarship of teaching and learning to ANR education and helping to broaden ANR education to reflect the larger life science and sustainability foci that will insure relevance and viability.

The focus of my scholarship is programmatic change in education and encompasses programs in both formal and non-formal education. My integrated teaching and research activities address three principal areas: 1) researched inquiry-based curriculum, assessment and programmatic design, 2) scholarship of teaching and learning, and 3) alternative methods of delivery. My assignment in CARRS is divided between teaching (60%) and research (40%), supported 90% by General Fund and 10% by Michigan Agricultural Experiment Station (MAES).

## **My Philosophy of Curriculum and Assessment Development**

The philosophy I bring to my work results directly from my preparation as a scholar and my experiences within the ANR education field. My graduate education at Cornell exposed me to a research-based model of science education that contrasted with the more common experience-based model of ANR education, highlighting practical knowledge. My work within the CARRS Environmental Studies and Agriscience (ESA) program, the Liberty Hyde Bailey Scholars Program and Michigan Department of Education strives to shift away from this either/or philosophy of teaching and learning. The best model to inform research and teaching practice should be a researched inquiry-based model. Development components of an inquiry-based model are experiences, patterns, and explanations. For examples, learners have many experiences, fewer patterns, and even fewer explanations to define the way they think, what they value, and what they contribute to their communities. Research in this area is one of the key drivers informing curriculum, assessment, and program design that I have provided leadership in developing— CARRS graduate core courses, CARRS undergraduate core courses, CARRS ESA concentrations in Community, Education and Engagement and ANR Teacher Education, the Bailey Scholars core curriculum, and the statewide assessments for secondary ANR programs in MI, NY, and VA.

Application components of an inquiry-based model are observations, patterns, and explanations/theory. Within these components I believe that the best method of instruction should be applied to help students move through the cycle of observation and data gathering towards constructing new knowledge based on these experiences. These methods of instruction

encompass the breath of teaching methods from instructional research-based models to hands-on reflective experiential models. Knowing when to apply various teaching techniques based on inquiry-based learning and how to assess these modes of learning drives my scholarship and is a teaching and learning skill that I highlight in the courses that I have developed while at MSU.

### **Embedding Scholarship in Progressive Programmatic Change**

Grounded within a researched inquiry-based model of life science education as compared to a traditional experience-based model of ANR education, my research specifically addresses ANR teacher/educator preparation and is informed by a continuance of my PhD research and the expansion of national standards, curriculum and assessments in ANR education. My work is especially designed in response to the charge I received when I joined the CARRS faculty; then chair Witter asked me to develop a vision for ANR education in the 21<sup>st</sup> century, along with a plan to position CARRS to serve as a leader in the field. To that end, I developed a 5-year research and teaching program plan to broaden MSU's ANR education program. This plan envisions changes in and additions to curriculum based on the scholarship of teaching and learning and the development of accountability systems with valid and reliable measures aligned with outcome-based standards, content, and delivery. An end-goal of this model is curriculum integration between what is commonly referred to as *formal* educators vs. *non-formal* educators.

The first and on-going step of the program plan is to investigate the foundations of curriculum development—contextual, social, structural, and political. Through my MAES projects I am focusing specifically on curriculum development for teacher/educator preparation. So far I have synthesized the literature on curriculum change within career and technical education programs and youth community programming and literature on curriculum theory more generally as it relates to educational programs. Based on this research I have designed a curriculum framework that will better prepare future ANR teachers and ANR community educators in ANR content, general education content, and pedagogical practice. It directly affects the teacher education (TE) courses that are taught in the CARRS department (TE 407, 408, 501, 502, 802, and 804), other undergraduate CARRS ESA courses required for both concentrations— Community Education and Engagement and ANR teacher preparation, and the Michigan Department of Education (MDE) teacher preparation standards. In 2007-08, I completed a redesign of the two TE graduate courses (TE 802, 804) that I teach. I aligned the clarifying goals and objectives for the courses to the MSU College of Education Teacher Preparation Standards, MDE Agriscience and Natural Resources Education Teacher Preparation Standards and Proficiencies, and CARRS undergraduate programmatic outcomes. Last year I worked with two undergraduate professorial assistants to design and complete three studies that led to a list of outcomes for TE 501 and 502 (12 credits), courses that represent the academic component of the post-baccalaureate internship (the “fifth year” of teacher preparation). The redesign of TE 501 and 502 around these outcomes will provide a more structured experience for both mentors and interns during the yearlong internship. This year, I will lead CARRS faculty and specialists with an interest in education through a formal multi-year process to redesign TE 407 and 408 (11 credits) as well as ESA education-focused courses.

### **Scholarship of Teaching and Learning - Informing my Practice**

The Scholarship of Teaching and Learning (SoTL) approaches problems or opportunities of teaching and learning through “methods appropriate to the disciplinary epistemologies, applications of results to practice, communication of results, self reflection, and peer review” (Cambridge, 2001). This area of scholarship, as applied to higher education, influences my plans for programmatic changes in CARRS teacher/educator development concentrations primarily in the areas of reflective practice, teacher/educator inquiry, connected learning and self-authorship.

In order for me to identify barriers to learning, articulate ways knowledge is constructed, and identify with the abilities of today's learners, I must consider certain fundamental questions:

What do today's youth value? What are their worldviews? How do these beliefs shape who they are and where their interests lie? Unfortunately, this sort of empathetic analysis is largely absent in present-day higher education. To remedy this lack of understanding, I have centered my outreach and engagement activities on "learning about our learners," using lessons learned to influence teacher/educator recruitment and retention and my own teaching and learning. My pass service on the MSU College of Agriculture and Natural Resources (CANR) Scholarship of Teaching and Learning Committee allowed me to focus a portion of my research on learning about our learners in CANR. As an active member of the CANR SoTL committee, I assisted in professional development seminars for faculty, staff, and graduate students to help develop a common language for SoTL university-wide. In September 2008, I co-convened a research-based seminar focused on learning about our learners to gain insight from experts in the university who study these questions as part of their job responsibilities (i.e. staff from student affairs). With assistance from the MSU Provost's Faculty Organization and Development (FOD) office, I organized a Faculty Learning Community (FLC) across the university to gain a better understanding of our learners in order to enhance faculty teaching and student learning. The goal of this FLC was to provide space, resources and opportunities for a community of learners to explore and learn about college learners. This knowledge generation was shared with other scholars at the MSU FOD Spring Institute and will be shared nationally at an upcoming Lilly Fellows Conference for Teaching and Learning.

Bringing SoTL methods into formal educational culture can help inform secondary teachers of the best teaching practices to strengthen student learning and understanding. For example, action research is providing an outlet for teachers to enhance teaching and learning based on self-reflection. Teacher leaders engaged in SoTL are motivating members of the profession to become reflective in their own practice. However, many teachers are unfamiliar with SoTL methods—discovery, integration, and application. My redesign of the ANR teacher education pedagogical courses has provided students with skills and practice that foster their development into critical thinkers and reflective practitioners in the classroom. The addition of teaching inquiry and action research into course curriculum translates into students who are better prepared. Putting this scholarship into the ANR education literature will help to inform other scholars and practitioners who currently do not have background knowledge of SoTL.

I have established myself as a researcher in the field of curriculum and assessment as it relates to teaching and learning. I am helping to lead advancement in this field as chair of the research special interest group within the American Association of Agricultural Education (AAAE) that was formed to expand SoTL within our profession. This is important because the AAAE profession has not emphasized SoTL and its importance for informing practice. My position at MSU and my ongoing research positions me to help expand adoption of SoTL methods nationally even as I expand them in my classroom.

### **Adopting Alternative Delivery Models for ANR Education to Increase ANR Literacy**

By connecting to other ANR educational programs in CARRS such as community-based education and outreach program development, I am exploring alternatives to formal (in school) ANR programs to enhance agricultural literacy in youth outside the school classroom. The constructivist paradigm of learning suggests that students construct their own knowledge based on experience and reflection. Traditional classroom learning is an isolated activity too often divorced from experience. Adding the exposure to non-formal living laboratories can enable students to acquire, reflect on and construct new knowledge that may not be made available through the declarative classroom model. Agricultural literacy is strengthened when students are able to connect contextual and experiential knowledge.

Since 2006, I have worked with the C.S. Mott Group for Sustainable Food Systems on their Youth Farm Stand Project (YFSP). I assisted with development of their four-part model—

nutrition education, food systems, farm stand development, and long term sustainability—as an example of ANR education suitable for the classroom, for community outreach groups, or for the integration of both. I also designed and implemented the formal evaluation of the program. I have shared the framework for programs like YFSP with audiences at national ANR education conferences. These programs encourage and motivate youth to participate in small scale community farming and, at the same time, empower youth and communities to develop their own ANR experiences, increasing overall agricultural literacy. My perspective as a scholar is that separating formal and non-formal ANR education is counter-productive and taking a transdisciplinary approach will better inform practice for general life science education. I recently resubmitted a USDA Higher Education Challenge Grant application that proposes an alternative place-based model to prepare teachers and educators to teach in unconventional local venues such as nature centers and small, family-owned farms. This project is designed to increase opportunities for CARRS undergraduate students in the ANR Teacher Education program and the Community Engagement and Education program to participate in diverse field experiences. By participating in community-based field experiences students gain real-world perspective, which, in turn, is reflected in their teaching, whether in curriculum development for K-12 education or for non-formal education settings.

My scholarship related to place-based education and student-centered curriculum development is unfamiliar to practicing secondary teachers and post-secondary professors. I am able to provide professional development workshops to help them integrate this type of curriculum development into their classroom through funding I have sought for my outreach work from the MDE Office of Career and Technical Education (OCTE). During 2006-2008, MDE engaged a group of practicing teachers to modify the curriculum framework for secondary ANR education programs and develop new program emphasis areas. I provided instruction to these teachers on replacing traditional content-centered objectives with student-centered learning objectives. I have also provided workshops to members of both the CARRS undergraduate and graduate committees on how to develop student-centered curriculum and how to authentically assess this type of learning. The impact of my outreach instruction has been to help teachers, educators, and community program developers realize the benefits that tailoring objectives to individual learners can provide in enhancing student learning.

### **Educational Changes in CARRS – My Outlook for the Future**

My goal as a researcher and teacher is that my scholarship will influence progressive change in formal and nonformal ANR youth to adult education programs, both in Michigan and nationally. I watch for opportunities to share my philosophy and results of my research with other ANR educators, especially during those conversations and professional gatherings when the climate for ANR education survival is being scrutinized. If ANR education programs remain stagnant—across curriculum, methods, content, and assessment—the current pace of erosion within the field will continue. I will continue to focus my research interests on programmatic change, particularly curriculum changes, and I have two manuscripts in preparation that demonstrate my scholarship in this area.

To enhance my emphasis on SoTL in the classroom, I am re-applying (was a top finalist 2009) to the FOD Lilly Teaching Fellows Program, which will offer me a community of practice focused on transformational learning. I am also continuing to pursue external funding to support my efforts in bringing the underpinnings of a broader more sustainable ANR education program into MSU. To keep ANR education vital and progressive it is necessary to engage disciplines not traditionally seen as stakeholders. I envision an increasingly multidisciplinary approach bringing together experts in all fields of ANR, faculty and staff within MSU whose scholarship advances place-based and community learning, social scientists investigating the negative stigma associated with agriculture, and others. This kind of broad inclusion is the first, and most often omitted, step in curriculum development. Working with such a multidisciplinary group will

inform my scholarly pursuit of broadening our ANR education program. Access to the multidisciplinary faculty within CARRS facilitates this effort and is my starting point for engaging a much broader group of experts. The multidisciplinary nature of CARRS makes it an ideal laboratory within which to fashion the transition I envision for ANR education. Building a new program is not easy, but we are on the edge of important change. My background and my scholarly integration of research and teaching, combined with the situated nature of the MSU program, position me to be a key leader of that change.