Journal of Agricultural Education, 60(2), 140-152
https://doi.org/10.5032/jae.2019.02140

Preservice Teachers' Experiences in a Required Reading in the Content Area Course

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Abstract

Strong literacy skills are needed to be successful in the 21st century. All teachers are charged with developing students' literacy skills and abilities. To help better prepare preservice teachers for this task, students at the University of Missouri are required to take a Reading in the Content Area (RICA) course. This intrinsic case study focused on preservice agriculture teachers who were nearing completion of the RICA course. Two focus groups were conducted with a total of nine participants. Four themes emerged from the data: 1. students held misconceptions and concerns that were dispelled, 2. the structure and content made it an impactful, yet incomplete, experience, 3. they recognized the importance of literacy in agricultural education, and finally 4) they were still hesitant to use literacy in their future classrooms. Recommendations for practice include: adding a literacy component to microteaching experiences, developing confidence surrounding literacy assessment abilities, and providing preservice teachers with literacy strategies specific to agricultural education.

Keywords: teacher preparation; literacy; preservice teachers; teacher education

Introduction and Literature Review

High- quality literacy skills are fundamental for life in and out of the classroom (Castleton, 2002; Heller & Greenleaf, 2007; Moje, Young, Readence, & Moore, 2000; Pearson, 2013; Schmoker, 2011; Tannock, 2001). Literacy skills have been and will continue to be a cornerstone of quality instruction (Buehl, 2011; Schmoker, 2011). In the past several decades, the workforce has experienced rapid changes, but the need for literacy skills in the workplace is unchanging (O'Brien & Stewart, 1990; Shanahan & Shanahan, 2008). Students who lack these skills fall behind in classrooms and the workplace. Higher literacy skills lead to higher income levels, avoidance of the criminal justice system, healthier lifestyles, and increased social and civic engagement (Heller & Greenleaf, 2007; Shanahan & Shanahan, 2008). College and career ready students possess the literacy skills needed to be successful in a variety of settings.

Literacy instruction in school changes as students progress through each grade level. In elementary school, the focus is often on learning-to-read and learning-to-write (Chall,1983). Towards mid-elementary school, the focus often shifts toward read-to-learn and write-to-learn activities (Chall,1983). Students are expected to use literacy skills as part of the learning process; however, many struggle with this transition because they are rarely taught how to read and write

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the types of texts they are now expected to use (Buehl, 2011; Pearson, 2013; Schmoker, 2011). Many high school graduates do not possess the literacy skills needed to be successful in college or careers (Pearson, 2013; The National Commission on Writing for America's Families, 2004). Teachers who strive to embed common literacy strategies in their instruction must also contend with specific literacy demands of their content areas (Biancarosa & Snow, 2004; Heller & Greenleaf, 2007; Shanahan & Shanahan, 2008).

Each content area has unique disciplinary literacy. Disciplinary literacy includes the way the content is organized, how it communicates key information, technical vocabulary, and how texts are used (Buehl, 2011; Dougherty Stahl, 2014; Lesley, 2014). Being literate within a discipline, such as agriculture, means identifying and using appropriate communication styles for the field (Moje, 2008). The technical vocabulary can also be an obstacle. Students must become comfortable with the language (Allington, 2002; Dougherty Stahl, 2014; Krajcik & Sutherland, 2010; Park, 2011; Snow, 2010) and syntax (Fang, 2006). It is necessary for all content area teachers, including agriculture teachers, to focus on the development of literacy skills in their classrooms (Jewett, 2013).

Teachers who integrate literacy into their classroom face many challenges. In addition to a positive attitude toward teaching literacy, they must possess the knowledge, skills, and instructional tools needed to integrate it effectively. Previous research has indicated agriculture teachers believe literacy instruction is only supplemental to the content area (Park, van der Mandele, & Welch, 2010). Research also indicates teacher literacy attitudes and beliefs are grounded in personal experience and disciplinary identity (Fang, 1996). Teacher attitudes also impact the likelihood of implementing reading strategies (Baker et al., 2008; O'Brien & Stewart, 1990). Student literacy attitudes are actively influenced by their teachers (Adams & Pegg, 2012; Moje, 1996; Park & Osborne, 2007a; Phelps, 2005). Historically, secondary teachers often view literacy skills instruction as something that should occur outside their classroom (Shanahan & Shanahan, 2008).

To aid in the integration of literacy instruction, many states have mandated literacy coursework for preservice teachers. Over 80% of in-service agriculture teachers have completed some literacy-related college coursework (Hasselquist & Kitchel, in press), a marked increase from previous studies (Park & Osborne, 2007a). Agriculture teachers must be comfortable with literacy strategies to use them in the classroom (Park & Osborne, 2006; Santamaria et al., 2010). Agriculture teachers who completed literacy-related coursework had better literacy attitudes (Park & Osborne, 2006) and used 10 additional strategies than non-completers (Park & Osborne, 2007a). When preservice teachers complete literacy-related coursework it has the potential to positively influence their classroom practices.

Very little is known about preservice teachers' attitudes and beliefs concerning literacy integration in the secondary classroom. What is known indicates preservice teachers are not supportive of literacy in the secondary setting. Preservice teachers believe literacy instruction should occur outside the content area classroom (Lesley, 2014). Some believe literacy instruction is inappropriate and unneeded at the secondary level (Hall, 2005). Preservice agriculture teachers are particularly resistant to the idea of using literacy in the classroom. They perceive literacy is counter to the hands-on nature of agriculture (O'Brien & Stewart, 1990). Improving preservice teacher literacy attitudes is one step toward improved classroom integration (Baker et al., 2008). Literacy-related coursework is designed to increase pre-service teachers' knowledge regarding its importance, expose them to a variety of literacy strategies, and improve attitudes and beliefs concerning literacy's role in the content area classroom. Given time and support, it is possible to change teacher attitudes (Hall, 2005; Spitler, 2011) and literacy-related coursework provides the necessary structure. To create in-service agriculture teachers who incorporate literacy skill

development, we must begin to understand and change preservice teachers' attitudes and perceptions (Spitler, 2011). Before we can begin to change attitudes and classroom practice, we must first understand their experiences in a required literacy-related class.

Purpose

Learning how to incorporate literacy requires high-quality preservice teacher training, (Snow & Moje, 2010). This training is typically provided through a single literacy course (Spitler, 2011). To evaluate the current process and determine if it is successful and identify any potential changes that must be made, we must explore the student experiences. This preliminary study's guiding question asked: what are the experiences of preservice agriculture teachers in a required Reading in the Content Area (RICA) course?

Methods

This intrinsic case study (Stake, 1995) focused on preservice agriculture teachers nearing completion of Reading in the Content Area (RICA) course. RICA is required of all middle and secondary education majors at the University of Missouri. The course is offered through the College of Education. Due to high enrollments, the class is taught by multiple instructors every semester. A common syllabus and course objectives are used to keep the class as standardized as possible. The common course assignments included: two microteaching experiences with integrated literacy strategies, creating a lesson plan that incorporates at least two literacy components, and developing an annotated bibliography focusing on literacy research in their discipline area. The stated purpose of the RICA course is to raise general literacy awareness by defining literacy and demonstrating how it is used in a variety of classroom settings.

The target population was undergraduate education students at the University of Missouri. The bounded system was students who were within two weeks of completing the required RICA course. All participants were of at least junior standing and within two semesters of their student teaching experience. Data collection took place in the spring and fall of 2016. Near the end of each semester, agricultural education majors were invited to a focus group. In the spring an invitation was extended to all eight preservice agriculture teachers enrolled in RICA, with seven agreeing to participate. In the fall, an invitation was extended to all four preservice agriculture teachers enrolled in RICA, with two agreeing to participate, for a total of nine participants.

The semi-structured focus groups lasted approximately one hour. See Table 1 for a complete list of focus group questions. Each session was led by the primary researcher and recorded and transcribed for data analysis. Additionally, field notes were taken during data collection. Data were approached with a constructivist lens (Creswell, 2013). Line by line coding was used to identify categories and themes of the experience. The focus group interviews and field notes served as a primary source of data; the course syllabus, calendars, and assignments were used as secondary data sources. To ensure trustworthiness, researchers triangulated data between participants over two different semesters and four different course sections. Additionally, researchers conducted member checking and peer debriefing and maintained a thorough audit trail of coding and analysis (Creswell, 2013; Stake, 1995).

Table 1

Focus Group Interview Protocol

Before starting RICA, what did you think literacy was? Has your opinion changed?
What did you expect from this course?
What was the most beneficial thing you learned in class?
Will this class influence your teaching? Explain
Did you see literacy in your field experiences? What did it look like?
Do you plan to incorporate literacy into your classroom? Explain
Is there anything else about the experience you would like to share?

The researchers reflexively position themselves as former high school teachers who incorporated literacy in their classrooms. The primary researcher completed a RICA course as an undergraduate student in Wisconsin. The secondary researcher served as a teaching intern for a RICA course at the University of Missouri. These experiences may have influenced the researchers' subjectivity (Creswell, 2013). However, care was taken to ensure accuracy and validity of the findings as discussed above.

Findings

Data analysis yielded four distinct themes related to the preservice agriculture teachers experience in the Reading in the Content Area (RICA) class.

Theme 1: Concerns and misconceptions exist but are dispelled early in the course

Before starting RICA, the participants held preconceived notions about the course structure and content. All the participants noted some initial hesitation and trepidation regarding the class, or as Jon put it, "I wasn't excited." The most commonly vocalized misconception was the belief that RICA was for "English and reading instructors" or "language arts and social studies teachers," not agricultural education majors. This stemmed from the material they believed would be covered. "I thought we were just going to have to read a bunch of different types of readings," said Katie. Pete shared, "I thought we would be writing a lot more, like poetry and stuff." Micah assumed, "we would be doing a lot of what [English teachers] are teaching our students to do." Reading and writing to gain the perspective of a secondary English student was unappealing to the participants and cemented in their mind RICA was not for agricultural education students.

RICA is based in the College of Education, which led to participant concern and anxieties. When asked what they thought the class would be like, Rose said, "boring – it's an education class. It's probably just going be like any other [education] class where you just sit and listen to a lecture." Sophie added, "their classes aren't practical." The perceived structure of lecture-based courses led to frustration. Participants often noted feeling they were given background information but never allowed to apply it.

Participants also articulated feelings of being an outsider and undervalued by education professors and the anxiety it caused. "I didn't expect for [RICA] to go well at first because we are the black sheep in the College of [Education]. No one understands what Ag Education is," said Beth. Mary shared:

> Most classes in the College [of Education] don't like us, they are not able to connect with Ag Ed students. I just figured this was one of those things we were just going to have to check off the list and get through.

The perceived outsider status was an obstacle for participants. Rather than viewing the class as a learning opportunity, they saw it as a requirement and something to "get over". Based on past experiences, participants believed the education professors were not excited to have them in class, and therefore they were not excited to be in class.

However, once class started the fears, misconceptions, and anxieties melted away. "This was my favorite education class of all time," stated Sophie. Despite representing four different RICA sections and instructors, all the participants were mindful of the positive role the instructor had on the course. Rose shared, "I don't know about the other RICA classes, but I think [because of] our teacher, we had an amazing experience." Lynn expressed appreciation for her professor's willingness to learn new information and engage in their lessons, "She really tried to make a connection [with us]. Whenever we had to do our lesson, she'd talked about how much she learned." Beth stated, "I think we have been pleasantly surprised. [Our teacher] really does make an effort to connect to us . . . and our [content] area."

Additionally, they had positive interactions with their peers and felt accepted. "People really enjoy what we taught and were engaged," volunteered Pete. Katie added, "People will come up to us after class or our lesson and say, 'oh, that's interesting. I never knew that's why we do that.' It was really cool." Not every interaction was positive, but the mixed experiences did not take away from the inclusive feel.

Theme 2: The class was an impactful, but incomplete learning experience

Despite beginning with dread and trepidation, the participants realized the value of the class and had a positive experience. They felt like their identity as agriculture teachers and their personal time was valued. Sophie said, "Our teacher did not waste our time. She wanted to make sure we wanted to learn and didn't give us busywork." Lynn simply stated, "Teachers make your experience." Participants valued being able to learn from the teachers' personal experiences too. Beth said:

> He would give examples of things he used to do when he was teaching high school. He's like 'don't do this, these were the mistakes I made, it wasn't very good.' I thought it was good seeing first hand and having a professor who is willing to share their mistakes with you.

They appreciated learning activities and immediately envisioning how it could be used in their classroom. "She actually taught us things we could use in our classrooms, it was a fun class," reflected Rose.

Besides the welcoming and productive environment, the participants also greatly valued the content of the class. If asked to define literacy prior to the class, many participants would have focused on the mechanics of reading and writing. Pete said, "Before I took the class, I thought [literacy] was just your ability to read and write, I never really went much deeper." Katie shared how her RICA experience changed her mindset regarding literacy. "I always just thought [literacy] was about literature, so like reading mostly, but after class, I figured out it . . . it's getting students to comprehend the procedures and what's going on." All the participants noted an expanded definition and understanding of what literacy entailed. Before class, they believed literacy was only

about reading and writing; however, after the class, they recognized literacy allowed students to understand the world around them.

Beyond a richer definition and understanding of literacy, the participants discussed having an appreciation and understanding of the importance of including literacy in all classrooms, including agriculture. The urgency to include literacy arose from two specific concerns. The first concern focused on secondary students' lack of abilities. Beth said, "Just learning the statistics about how underserved some of our students are, the levels that they are not able to read at, it's even more important for us to know how to teach literacy." Others believed it was their responsibility as future teachers to help struggling readers and writers. Sophie described the importance of high-quality literacy skills. "Whatever you are doing, you are going to have to be able to read and to write. I want to include [literacy] in my classroom because [the students] will be using it so much later." The second reason to integrate literacy stemmed from its role in increasing student knowledge and retention. Micah shared, "The small ways we can incorporate [literacy] make a difference in student learning." Lynn added, "I think by including reading and writing, it helps us get to our final goal of students comprehending the material and being able to apply it." They felt a sense of responsibility to build the skills needed to learn new information in the classroom and be successful in life outside of school.

How content was taught was another aspect that added value to their experience. Micah said, "We were taught a lot of neat ways to improve our classroom. I definitely think this class will help us improve our teaching . . . and be better teachers overall." They discovered a variety of ways to include literacy, identified multiple types of texts, and practice literacy incorporation through "mini-lessons." Pete described the experience, "We learned a lot of cool strategies . . . and different activities for your classroom." Mary described the class as "learning ways to include smaller bits of reading and writing in a lesson so it's not so overwhelming." Beth said, "I feel more confident in my abilities to have my students do [literacy] things, and more confident in my abilities to instruct them on how to do those things."

Being exposed to and using a wide variety of non-traditional texts was crucial for the participants. Prior to RICA, many participants believed textbooks were the only type of texts used in agriculture. Sophie and Rose, who were in the same section, stated their instructor's use of a wide variety of texts, including websites and videos, made them realize how often students are exposed to texts and the importance of understanding them. Katie encapsulated her experience with defining text:

> One day, at the beginning of the semester, our instructor said '[texts] are not just papers and essays, it can just be a drawing. If you can explain what you drew, you are using literacy.' I just thought that was great.

The new definitions of text and how it can be used was helpful for participants; it made it easier for them to envision literacy in their own future classrooms.

Every RICA student is required to complete several mini-lessons or microteaching experiences. The expressed objective of the microteaching experience is for students to gain confidence and practice integrating literacy into lessons. Seeing a variety of literacy activities in the context of their classmates' lessons was important for the development of the participants. Jon shared, "the most helpful thing was seeing how other [students] put literacy into their lessons. I liked being able to look at what they did and twisting it around to make it work for me . . ." The act of teaching was also important. Participants had not yet taken the teaching methods courses and

had never had the opportunity to teach a lesson before. Therefore, microteaching allowed them to start building their teacher skillsets.

Despite a very positive experience, the participants still wanted more instruction on how to assess student work and specific strategies that work well in the agriculture classroom. "It would have been nice to know . . . we didn't touch on how to grade anything," said Rose. While the participants improved their overall confidence, they still craved more guidance in assessing and assigning work. Additionally, the participants appreciated identifying general ways to include literacy in the classrooms, but also lamented not having specific strategies geared towards agriculture. Sophie shared her frustration, "[the instructor] would just approach things very broadly, never really focusing on Ag." Participants discussed how they had to turn to other content areas when trying to identify strategies to use in their classrooms. Lynn said, "I know there is not a lot out there for us, so we have to branch out to science." Beth said, "I feel like we can closely relate to the science group and what they do." While the students were able to adapt strategies to fit, they longed for agriculture- specific strategies.

Theme 3: Literacy belongs in the agriculture classroom

The participants began to explore the idea of disciplinary literacy (literacy skills specific to each content area) in agriculture. "Math has its own kind of literacy, English has its own kind of literacy, and agriculture has its own literacy," said Mary. They believed disciplinary literacy was important and recognized the variety of ways it is used. When asked to describe what disciplinary literacy looked like for agricultural education, Jon replied with, "It's not just you to go Ag class, write and paper and give a presentation, it's different. You got to apply it." The discussion focused around the various types of text agriculturalists encounter (production records, safety manuals, blueprints, proficiency applications, etc.) and helping students understand and apply information. Some participants discussed the importance of helping students with the technical vocabulary used in agriculture. Lynn added, "I want my students to be good consumers of knowledge and to tell the differences between accurate and inaccurate information." The idea of helping students identify accurate information was important for all participants.

Understanding how to use literacy and disciplinary literacy in agricultural education was a critical breakthrough for participants. They discussed recognizing how literacy already exists in classrooms and the significance of capitalizing on it. Rose said, "[RICA] made me notice how important it is to put literacy into every class." They could identify subtle ways literacy is present in agriculture. Pete shared, "Even doing safety type stuff . . . I never really thought about it too much, but that's one-way literacy is in your classroom." They also could identify missed opportunities to improve a lesson through literacy integration. Katie described an experience where she observed the teacher explain livestock evaluation and become frustrated when the students struggled with the technical vocabulary. "She could have taught those vocab words with a word chart or something." Mary shared a similar experience related to chainsaw safety. "The teacher didn't have them read, he strictly [taught] it from PowerPoint. I think that was a missed opportunity to incorporate literacy." Participants discussed the importance of capitalizing on those opportunities to help increase student learning. In the words of Mary, "Little [literacy] things make a big difference."

Theme 4: Yes, but . . . Still reluctant to include literacy

When asked if they planned to incorporate literacy activities into their classrooms, all the participants answered yes; however, despite their intentions, they still held reservations. One concern raised by the participants was student resistance. They described how many

students enrolled in agriculture classes have specific expectations regarding course material and instruction. Jon shared, "A lot of kids take Ag as a fun elective and they don't want to be reading and writing, that could be something they fight you on." To counter this, the participants discussed the importance of using literacy purposefully and subtly to make it a natural part of class. As Lynn noted, "You can't just drop [literacy] in there. I thought it was really fun to find sneaky ways to incorporate it, like 'haha you didn't even realize you're reading.'"

Another concern was the perceived juxtaposition between literacy and the hands-on nature of agricultural education. Mary's field observation left her with a distinct opinion:

> I went to a Greenhouse class and then to Construction and Mechanics class, so the kids were really interested in the activity. I asked them as I was going through and watching them, "Would you want to write anything about this? Could you read an article about it?" and they kind of looked at me like, "This is a fun class, we don't do reading and writing in this class." You don't do that with hands-on stuff.

Many participants reflected on their experiences as students and the lack of literacy exposure in their high school programs. Katie said, "We never did this in my Ag program, we were too hands-on." They felt the hands-on aspect of agriculture was incompatible with literacy integration.

Participants also were reluctant to incorporate literacy for the sole purpose of incorporating literacy. Beth said:

> I think sometimes in education we do things because someone along the line told us that that was the right way to teach. Just because a principal wants you to do something is not a good enough reason to do it.

They discussed the idea of doing literacy effectively. Sophie said, "I feel you just have to do it the right way. . . you can't just give them something." Several participants worried about finding the right places to include literacy to make lessons meaningful and not just busy work. "I think once [students] see the value in [literacy], it could go a little more smoothly," added Pete.

Discussion

Misconceptions about course material and relevancy, as well as a perceived "outsider" status contributed to participants' hesitancy regarding the RICA course. However, once the course began, students found the experience to be fun, engaging, and useful for their future classrooms. Other content areas have reported similar transitions from reluctant participants to engaged classroom community members (Spitler, 2011). The outsider status was overcome due to the purposeful efforts of participants' instructors to make them feel welcome, included, and accepted amongst their peers. The participants' understanding of literacy expanded beyond reading and writing to encompass using reading, writing, speaking, and listening to improve student comprehension and understanding. Being exposed to a broad array of strategies and activities they could use in their future classrooms made RICA a positive experience for everyone.

Is it possible the "perceived outsider" status inhibits agriculture education majors from maximizing learning in other classes? Especially those outside their home college where they may feel unwanted? Future research should be conducted to determine if "outsider status" has a negative impact on learning or if the location of the agricultural education program (college of education or college of agriculture) influences those perceptions. Feeling wanted and valued by

their teachers and peers allowed these participants to fully engage in the course. Future research should be conducted to determine if any other external barriers exist regarding students' participation in a RICA-type course. To maximize a student's experience, we must recognize potential mitigating factors and work to overcome them.

The course content was extremely important for the participants. They wanted the material discussed in class to be relevant to them as future agriculture teachers. Seeing how literacy could be applied to any classroom and practicing it through microteaching was key to enhancing learning. One recommendation for practice is to encourage students to integrate literacy activities or strategies into all microteaching experiences, including teaching methods course(s). Misconceptions regarding course content led to the hesitations regarding the class. An additional recommendation for practice is to start a dialogue between RICA instructors and agricultural education faculty to discuss how they can support each other's efforts. It is likely both parties are uninformed regarding the nature of their positions and how they can work together. Agricultural education faculty can offer unique insights on how literacy is used within our discipline and the challenges agriculture teachers face when incorporating it. RICA instructors can help us identify and embed literacy in all our agricultural education courses. By increasing our students' exposure to literacy, we can help improve their confidence and perhaps their classroom practices.

The main goal of RICA, to help preservice teachers understand literacy and how to integrate into classrooms, was met. The participants moved beyond the misconception that literacy was just reading and writing, and toward a richer understanding of literacy and how it can help students. Additionally, they developed positive attitudes regarding the importance of literacy incorporation, which may motivate them to integrate it (Adams & Pegg, 2012; Moje, 1996; Park & Osborne, 2007b; Phelps, 2005). Developing an awareness of the statistics related to the importance of reading was a key motivator for participants. It is beneficial for preservice agriculture teachers to understand the literacy demographics of their future students. Preservice teachers felt integrating small literacy activities was important to build students' literacy skill sets.

Instruction on how to use literacy in the classroom led to increased confidence. Feelings of increased confidence and teacher self-efficacy upon completion of a RICA-type course are not unusual for preservice teachers (Buehl, 2011; Spitler, 2011). The participants developed knowledge regarding a broad range of literacy strategies. Agriculture teachers who have completed a RICA-style course use a wider variety of strategies in their classrooms compared to non-completers (Park & Osborne, 2007a). An expanded definition of text is also a common outcome associated with a RICA-style course (Spitler, 2011). The participants valued participating in and observing microteaching experiences. They appreciated how those experiences allowed them to gain confidence and see literacy used in a variety of contexts. It is recommended preservice agriculture teachers continue literacy-related coursework to improve future classroom practice. Additionally, consideration should be given to having students purposefully reflect on the different literacy activities they have been exposed to and how the strategies could be adapted and used in agricultural education. One recommendation for practice is to include a question regarding the inclusion of literacy strategies/activities or improvement of existing ones as a part of microteaching reflections. Research should be conducted to determine how in-service teachers select and adapt literacy strategies to meet their classroom needs. Identifying and modifying strategies was an important skill the focus group participants began developing in class. By understanding this skillset with in-service teachers, we can develop a stronger skill set among our preservice teachers.

Students developed disciplinary literacy awareness and understanding during the course (Buehl, 2011). The participants could identify several ways literacy is uniquely used in agricultural education. For them, the types of texts used, technical vocabulary, and applying the information are all part of agriculture's disciplinary literacy (Allington, 2002; Chambers Cantrell, David Burns, & Callaway, 2008; Moje, 2008; Park et al., 2010; Santamaria et al., 2010b; Snow, 2010). Participants recognized many existing literacy opportunities within agriculture and the importance of capitalizing on them to maximize student learning (Schmoker, 2011). Teacher educators should work to continue preservice teachers' disciplinary literacy awareness. Conducting structured discussions regarding the use of literacy to enhance student learning on common topics (e.g. shop safety) would be beneficial for preservice teachers.

Even though the participants found this class highly beneficial, they also left the class wanting more. Agriculture teacher educators can fill the void. Participants felt frustrated and unprepared regarding an assessment of students' work. Helping future teachers understand and develop assessment skills is important. Agriculture teachers who are comfortable in assessing student writing are more likely to use it in their classrooms (Hasselquist & Kitchel, in press). Assessing student learning is a vital component of teaching. It is important to help preservice teachers develop the skills and knowledge needed to assess student learning, not just list different assessment methods. Additionally, RICA instructors should make an effort to include discipline-specific literacy strategies in their courses. While knowledge of a wide variety of strategies was valued by the participants, they were keenly aware of the lack of agriculture-specific strategies. Future research should be conducted to determine what literacy strategies are commonly used within agricultural education and provide direct instruction on the most common strategies to preservice teachers.

Currently, a disconnect exists between the participants' attitudes regarding literacy. They espoused the belief literacy was important for students and planned to include it in their lessons while also expressing a reluctance to use in their classrooms. Hesitation to include literacy in the classrooms is not a new phenomenon (Hall, 2005; O'Brien & Stewart, 1990; Spitler, 2011). Preservice agriculture teachers have long held the belief that the hands-on nature of agriculture does not allow for literacy integration (O'Brien & Stewart, 1990). It is important for preservice teachers to identify the variety of ways literacy integration supports hands-on learning. Teacher educators should help students identify and enhance existing literacy opportunities found in hands-on activities. Many preservice teachers hold concerns about the lack of literacy buy-in from students (Hall, 2005; O'Brien, Stewart, & Moje, 1995; Spitler, 2011). For the participants, overcoming student resistance meant being "sneaky" by finding subtle and purposeful ways to include literacy. Finally, the importance of using literacy the "right way" was not lost on the participants. They discussed it must be done purposefully and with enough support to help students be successful.

The ambiguous nature of preservice teachers' literacy beliefs is a point of concern. A discussion should be held between literacy and content area experts focusing on how much of preservice reluctance is developmental in nature (e.g. worrying about student response) and how much of is discipline specific (e.g. literacy is counter to hands-on learning) and what steps can be taken to overcome both. Future research should be conducted with early and mid-career teachers regarding the literacy integration and adoption process. How did they overcome challenges and what were the important experiences that aided them in the process? An additional study should be conducted with first-year teachers to explore their experiences as they begin to incorporate literacy in their classroom, which may also provide some insight into preservice teachers' mixed views regarding literacy. Finally, research should be conducted with preservice teachers in other content areas to determine what can be done to help improve the RICA experience for all preservice teachers.

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