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Transformative Learning in an African American Agriculture Course

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Abstract

Despite agricultural education's prioritized efforts to increase diversity, people of color remain minimally represented. The overwhelming majority of all School-Based Agricultural Education (SBAE) teachers are White, non-Hispanic. The limitations of SBAE teachers' prior experiences or knowledge base of ethnic and racial diversity could lead to challenges in successfully supporting minority students. Agricultural education programs play an essential role in supporting preservice teachers' attainment of deeper understanding by providing multicultural education curriculum that encourages growth in their critical awareness of diverse cultures. The purpose of our study was to evaluate the transformative learning experience of students completing an African American (AA) Agriculture course. This study analyzed responses provided by students both at the beginning and end of the course experience to understand if and to what degree the transformative learning process occurred. Findings revealed evidence of transformative learning among the students in the way of six emergent themes that described their perceptions, attitudes, and beliefs about AA agriculture when comparing responses acquired before and after the completion of the course. With the limited representation of AA teachers in SBAE programs, the evaluation of the transformative learning process of students in this course may open the door to create a more culturally inclusive environment in SBAE and the agricultural industry as a whole.

***Keywords**:* African American agriculture; diversity in SBAE; minority students; transformative learning

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Introduction

A rapid shift is occurring in the schools across the United States as students are more frequently representing a variety of diverse cultural backgrounds. This change in representation creates a growing need to ensure educators are equipped with the tools to create a culturally inclusive environment. Research reveals a disproportion in representation, when in 2012, 51% of elementary and secondary

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students were found to be taught by an 82% White teaching corps (U.S. Department of Education, 2016). This trend of limited minority representation is also present within the SBAE teacher workforce (Vincent & Torres, 2015). Despite agricultural education's prioritization of efforts to increase diversity, minorities – especially people of color – are minimally represented (Doerfert, 2011). It is estimated that 69% of all SBAE teachers are White, non-Hispanic (Lawver et al., 2018). What is more, the number of program completers who identify as African American, Hispanic, Pacific Islander, or Asian are considerably low (Lawver et al., 2018).

Although the teacher academy continues to remain the same regarding race and ethnicity, a shift in the ethnic and racial distribution of school-aged youth has been occurring in the United States (Musu-Gillette et al., 2016). The number of Black and White children between the ages of 5 to 17 have been on the decline while all other racial groups have been increasing (Musu-Gillette et al., 2016). Considering the ethnic and racial diversity that exists in public schools, it is important to evaluate the perceived level of preparation teachers possess for teaching minority students. With increased interest in developing more multicultural curriculum (Berry, 2011; Vincent et al., 2014), agricultural education programs must provide preservice teachers with opportunities to learn about the cultures and racial groups of the students they are expected to encounter in their classrooms (Ambe, 2006; Warren & Alston, 2007). Jones and Bowen (1998) found when evaluating the influence of teachers and schools on AA enrollment in SBAE programs, the teachers who showed enthusiasm about their programs and could relate to all students had the highest number of AA students in their classes. This finding supports Warren's and Alston's (2007) claim that diversity competencies should be included in agricultural teacher preparation programs. Ambe (2006) suggested the limitations of teachers' prior experiences or knowledge base of diversity could lead to challenges in successfully supporting minority students. To add to the complexity, AAs generally have a lack of interest in studying agriculture (Westbrook & Alston, 2007). Therefore, understanding how teachers learn about, relate to, and teach AA culture and history, specifically as it relates to agriculture, is imperative.

Literature Review

The contributions of AAs to agriculture in the United States have been numerous but often overlooked (Balvanz et al., 2011; Moon, 2007). Research focused on the integration of AA agricultural history from the colonial years to present day in agricultural education curriculum is nonexistent (Hurt, 2019). Yet, examining the knowledge of AA history in teacher education is critical because history is a tool to facilitate a deeper understanding of group identities (King, 1993). Hence, overlooking opportunities to educate SBAE preservice teachers about the specific contributions and experiences of African Americans (AAs) in agriculture may have consequences in how they prepare, teach, and treat their future AA students (King, 1993; King, 2019). The experiences and perspectives of AAs are not monolithic, including those within an agricultural context and the manner in which those experiences are taught and learned should reveal those diverse complexities (Dagbovie, 2006). To understand the need for a course related to AA agriculture, it was important to include the relevant history of AAs in agriculture and its connection to SBAE in our literature review.

Background of African Americans in Agriculture

Historically, AAs have credited the building of wealth and economic freedom to the attainment of education (King, 1993). This commitment is apparent in the agricultural industry, particularly through the establishment of 1890 Land-Grant Institutions, which afforded AAs an opportunity to pursue the study of agriculture and mechanical arts (Reynolds, 2002). Not all AAs were enthusiastic about remaining in agriculture and migrated North for industrial careers (Harris, 1992; Neyland,1990). Thought leaders like Booker T. Washington, founder and first president of Tuskegee Normal and Industrial Institute, advocated that agriculture could help AAs obtain the economic freedom they desired (Ownby, 2003; Tuskegee University, 2020).

Interest to expand the pursuit of opportunities in agriculture persisted following the early 20th century when an organization was formed to encourage AAs to look beyond the labor force in agriculture (Wakefield & Talbert, 2000). New Farmers of America (NFA) was started in 1935 in the state of Virginia for Negro farm boys (Wakefield & Talbert, 2000). There were more than 52,000 AA members in NFA when the decision to merge with FFA was finalized (Wakefield & Talbert, 2000). The migration was difficult on AAs (Jones et al., 2021). According to the 2017 National FFA Foundation report, AAs account for 3.9% (approximately 25,000) of membership, which is significantly less than membership in the 1960s (National FFA Organization, 2018). The trend of low representation in agriculture is not unique to the educational sector but also applies to production agriculture. AAs represented 1.4% of the farmers in the United States in 2014 (United States Department of Agriculture, 2014). Research has revealed that although career opportunities in agriculture are increasing, the representation of minorities, including AAs, has decreased (Warren & Alston, 2007).

The Need for an AA Agriculture Course

Agricultural education programs play an essential role in supporting preservice teachers' attainment of deeper understanding by providing multicultural education curriculum that allows for growth in their critical awareness of other cultures (Ambe, 2006; Rodriguez & Lamm, 2016). This is important because it is possible for preservice teachers to obtain an education and never fully understand the contributions of AA people to the United States (Dubois,1973; King, 2019). Therefore, specific courses should be made available at the university level that highlight diverse perspectives and experiences (Dagbovie, 2006), more specifically AA history and culture. This is especially needed for preservice teachers because sensitivity to the voices and cultural experiences of minorities is a critical characteristic they must develop when encountering diversity in the classroom (Ambe, 2006; LaVergne et al., 2012; Vincent et al., 2014). The learning process of students enrolled in such multicultural courses should be evaluated (Banks & Banks, 2001; Boyer et al., 2006; Mezirow, 2000) to determine if changes occur in perspectives and dispositions toward AA history and culture.

Epistemological and Theoretical Perspective

This study was conducted from the epistemological perspective of constructionism, which views truth and knowledge as that which is created among individuals in social contexts (Crotty, 1998). The explanations and descriptions of students' learning, both individually and collectively during the course, were essential to the problem being studied. Therefore, meaning, as it relates to our research questions, was co-created through the collective truths and insights about the learning process shared by the student participants.

We approached our study, as well as the design of the course, from a transformative learning theory perspective based on the work of Mezirow (1978, 1990, 1991, 2000). Transformative learning theory emphasizes not just the new knowledge students may gain in a course, but shifts in attitudes, behaviors, and dispositions that may result (Mezirow, 1991). Learning is considered transformative when an individual becomes critically aware of their predispositions related to a matter, reformulates their assumptions, and makes the decision to act according to newly developed understandings (Mezirow, 1990). Merriam and Caffarella (1999) claimed, transformative learning "is about change - dramatic, fundamental change in the way we see ourselves and the world in which we live" (p. 318).

Initially described through an eleven-stage process (Mezirow, 1991), transformative learning theory is more succinctly understood as four major phases. Boyer's et al. (2006) operationalization of the transformative learning process guided our theoretical perspective and understanding of the students' learning process during the course. Based in Marsick's and Mezirow's (2002) phases, Boyer et al. (2006) operationalized and described the four-phase transformative learning process as: (a) a *disorienting*

dilemma, in which a "personal crisis, triggering event, or experience challenges an individual's belief structures"; (b) *critical reflection*, in which an individual engages in "critical reflection and reevaluation of assumptions about themselves and learning"; (c) validating *discourse*, where an individual engages in "dialogue and discourse with other students or the instructor (consensual validation, seeking expertise from others)"; and, (d) *reflective action*, demonstrated by an individual taking action, "not only in this environment but beyond" (p. 358), as a result of a new perspective.

Purpose

The purpose of our study was to evaluate the transformative learning experience of students who completed a course titled, *African American Agriculture*. Two research objectives guided the study:

1. What evidence of the transformative learning process can be found through a theoretical content analysis of students' comments collected before and after completing the course?
2. What were students' perceptions, attitudes, and beliefs about AA agriculture before and after completing the course?

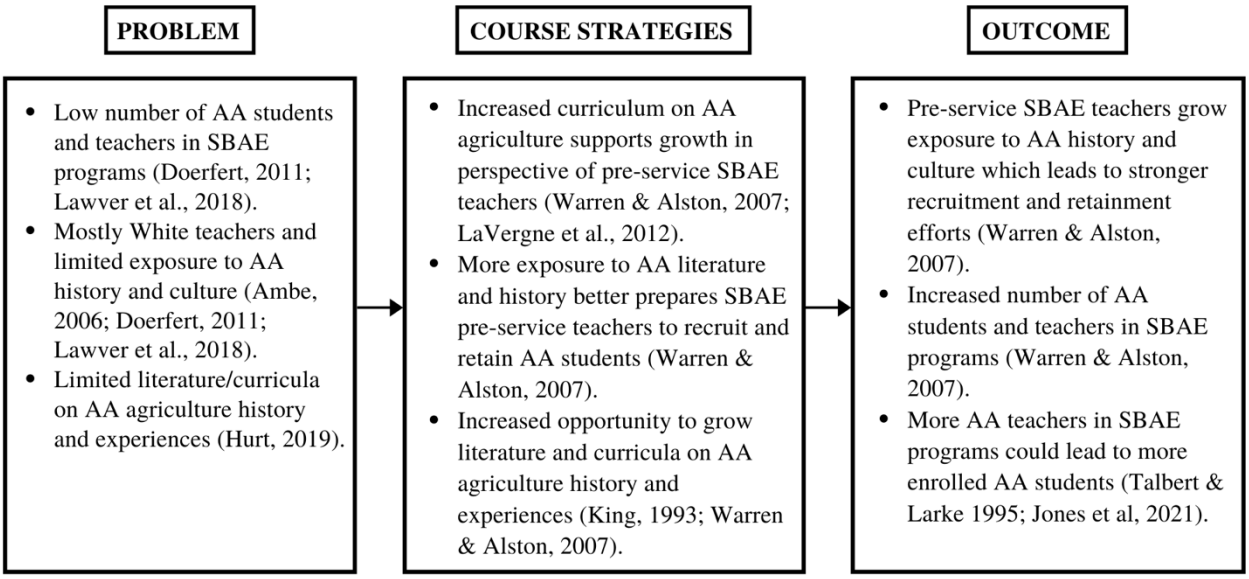
With the limited representation of AAs in agriculture, the evaluation of the transformative learning process of students in such a course may open the door to create a more culturally inclusive environment in the agricultural industry.

Conceptual Framework for the Course

A review of the literature identified several problem areas within SBAE as it relates to minimal representation of AAs in agriculture. The primary areas of concern were (a) the level of preparedness of the primarily White pre-service teaching workforce in recruiting and retaining AA students (Warren & Alston, 2007); (b) the limited number of AA SBAE students and teachers and the scant literature (Doerfert, 2011; Lawver et al., 2018); and (c) curricula developed about AA agricultural history and experiences (Hurt, 2019). After evaluating the problems and identifying relationships between the challenges, we developed the course as a strategy to address the issue of minimal representation of AAs in agriculture by broadening the curricula of pre-service SBAE teachers. Increased exposure to the AA agricultural perspective can help future SBAE educators develop more effective strategies to recruit and retain AA students and teachers within their programs (Warren & Alston, 2007). The course provided preservice SBAE teachers exposure to AA history and culture needed as they pursued a career in agricultural education. Figure one provides a visual representation of the conceptual framework that guided the development of course.

Figure 1

Conceptual Framework: The Dilemma of Limited African Americans in SBAE Programs



About the Course

AA Agriculture [AGED 4990] was a one-credit hour course that was piloted during the fall 2020 term by the Department of Agricultural Education, Communications and Leadership at Oklahoma State University. The course was offered as a two-day, in-person short course. The learning objectives of the course aimed to develop students' knowledge and ability to compare and classify the experiences of AAs involved in the agricultural industry. Transformative learning theory (Mezirow, 1978, 1990, 1991, 2000) guided the design of the course to ensure students not only gained knowledge about the course topic but would become critically aware of their predispositions and form new understandings. Opportunities for students to experience disorienting dilemmas, reflection, and discourse were incorporated throughout the course using various teaching strategies. After completing the course, students were expected to recognize and summarize the significance of slavery on developing the United States agricultural industry and economy among domestic and international markets, as well as the numerous current and historical contributions of AA agriculturists and organizations.

Students explored the contributions and current experiences of AAs within the agricultural realm through various course assignments and activities. Significant figures and historical moments were featured in depth through lecture, video, and worksheet assignments. Students also engaged with current AA professionals representing several areas of the field of agriculture such as higher education, production, the United States Department of Agriculture (USDA), and school-based education. Discussions with professionals and scholars were held through individual Zoom interviews and panel discussions to not only learn more about the current experiences of AA professionals, but to also draw connections between the historical and research content of the course to present day experiences.

Methods

A basic, interpretive, qualitative study using two assessments was conducted to evaluate the transformative learning experience of students during the course. The initial assessment provided to students at the beginning of the course gathered demographic data and included four reflective, open-ended questions to assess students' motivation for taking the course, as well as their attitudes, beliefs, and perceptions related to AA agriculture. The second assessment, which was administered at the end of the

course, posed the same four reflective, open-ended questions from the first assessment to the students, as well as four additional open-ended questions to assess their learning and evaluation of the course. Specifically, students were provided access to and completed the first assessment before the start of the course. The second assessment was made available to students up to one week after completion of the course. Both assessments were made available to students through the quiz feature in Canvas, the university's adopted learning management system. Face and content validity of the assessments were assessed by a panel of experts, which included female and male faculty members in the department with several years of expertise in teaching multicultural topics in agriculture at Oklahoma State University.

Content analysis (Merriam & Tisdell, 2016) was used to identify patterns and themes from the students' assessment responses. Content analysis allows researchers to draw meaning from qualitative data by identifying consistencies in phrases and recurring words (Patton, 2015). Although some content analysis procedures call for a minimal quantitative assessment, it is not required in qualitative research. Merriam and Tisdell (2016) suggested content analysis also allows for the nature, or more contextual meaning, of data to be assessed qualitatively. The content analysis for this study was both deductive and inductive in nature (Patton, 2015), arriving at quantitative findings based on the theoretical understanding of transformative learning, as well as qualitative themes emerging from the data.

In the first phase of content analysis, we theoretically coded the 210 student comments from the two assessments using Boyer's et al. (2006) transformative learning coding rubric (see Table 1). The rubric guided us to code each comment based on the following criteria for each operationalized phase of transformative learning (Boyer et al., 2006): (a) dichotomously code the existence of a disorienting dilemma as *Yes, it occurred* or *No, it was not evident*; (b) code the intensity of critical reflection and discourse using a 3-point Likert-type scale of 1 to 3, with 1 = little critical reflection/discourse, 2 = somewhat critical reflection/discourse, and 3 = a great deal of critical reflection/discourse; and (c) dichotomously code the existence of reflective action as intended actions for the future or completed actions during the course. Quantitative content analysis allowed us to determine the number of comments coded for each theoretical phase and to determine if each student completed all four phases of the transformative learning process during the course.

Table 1

Transformative Learning Coding Rubric (Boyer et al., 2006)

Stage	Description	Rubric Coding	
1. Disorienting dilemma	Personal crisis, triggering event, or experience that challenges an individual's belief structures	*Yes*	*No*

Table 1

Transformative Learning Coding Rubric (Boyer et al., 2006), continued…

2. Critical reflection	Critical reflection and reevaluation of assumptions about themselves and learning	*Level 1 – Little* Brief comment indicating critical reflection associated with the need to make a change from preconceived assumptions, beliefs, habits, or ideas	*Level 2 – Somewhat* Some discussion beyond brief comment associated with the need to make a change from preconceived assumptions, beliefs, habits, or ideas	*Level 3 – A Great Deal* Extensive, elaborate, deep discussion associated with the need to make a change from preconceived assumptions, beliefs, habits, or ideas
3. Dialogue and discourse	Dialogue and discourse with other students or the instructor (consensual validation, seeking expertise from others)	*Level 1 – Little* Brief comment (aired at the group, instructor, or both) indicating the initiation of dialogue and discourse to validate the need for change in preconceived assumptions, beliefs, habits, or ideas	*Level 2 – Somewhat* Some discussion beyond a brief comment (with the group, instructor, or both) representing dialogue and discourse to validate the need for change in preconceived assumptions, beliefs, habits, or ideas	*Level 3 – A Great Deal* Extensive, elaborate, deep, discussion (with the group, instructor, or both) representing an attempt to validate the need for change in preconceived assumptions, beliefs, habits, or ideas
4. Reflective action	Individual taking action, not only in this environment but beyond, as a result of a new perspective	*None*	*Intended Actions* Actions described in a way that suggested they would occur in the future	*Completed Actions* Actions described in a way that suggested they occurred during the course delivery time

The second phase of content analysis used qualitative concept coding (Saldaña, 2016) to identify common meanings among the students' attitudes, beliefs, and perceptions before and after the course. Concepts codes reflected multiple levels of meaning and allowed us to "progress toward the ideas suggested by the study" (Saldaña, 2016, p. 120). All comments from the two assessments were compiled and coded independently using a pre-established codebook. We then used code mapping to compare and reduce initial concept codes, enabling patterns and themes to emerge (Saldaña, 2016). Qualitative content analysis of the codes and patterns resulted in six emergent themes (Saldaña, 2016).

Several techniques were followed to establish credibility, transferability, dependability, and confirmability of our study (Lincoln & Guba, 1985). Theoretical and concept codebooks were established for credibility purposes (Creswell, 2013; Lincoln & Guba, 1985) and to allow us to code separately for triangulation. Using Miles' and Huberman's (1994) formula to compare codes between the researchers, interrater reliability was determined to be 92.5% and considered sufficient. Codes not in agreement were discussed among the researchers until a consensus was achieved. Multiple student comments to support the theoretical findings and emergent qualitative themes are provided to establish transferability (Lincoln & Guba, 1985). An external faculty member not directly involved in the research process, but who helped with course development, evaluated our coding and findings to establish dependability (Lincoln & Guba, 1985). Confirmability was established by analytic memos maintained during coding and were reflected on by the researchers (Saldaña, 2016).

Participants

Participants for the study were purposive in nature and included students enrolled in the course during the fall 2020 semester (N = 15). Fifteen students (n = 15; 100%) completed the course and provided both assessments for inclusion in the study. Nine (60%) students identified as female and six (40%) identified as male. Students were predominately White (n = 11; 73.3%), with less than one-third identifying as American Indian or Alaska Native (n = 2; 13.3%), Hispanic or Latino (n = 1; 6.7%), or Multiracial (n = 1; 6.7%). Students ranged in age from 18 to 24 years, with seven being 21 years of age. Most students were from Oklahoma (n = 10; 66.7%) and were agricultural education majors (n = 11; 73.3%). The remaining students identified their majors as agricultural leadership (n = 2; 13.3%), secondary education with an emphasis in history (n = 1; 6.7%), and business marketing (n = 1; 6.7%).

Statement of Subjectivity

For this study, the first two authors coded and analyzed the data. The first researcher is an AA doctoral student and graduate teaching associate at Oklahoma State University. She was raised in the Southern region of the United States, earned two agricultural degrees, and worked at an 1890 land-grant institution. She acknowledges how her personal experiences of success and adversity as an AA in the agricultural industry influenced her perspective as an instructor. As a result, great consideration was given to developing a space where her race would not create a potential conceptual barrier in a classroom with predominantly White students when discussing difficult racial topics in America.

The second researcher is a White faculty member with experience teaching multicultural leadership courses at Oklahoma State University. She attended three 1862 land-grant institutions, earning three agricultural degrees. Raised in the Southern region of the United States, she acknowledges the historical context of her family as White landowners and farmers over multiple generations and how it shaped her early perspectives of AA agriculture and subsequent transformative learning experiences. As a research team, we recognize our experiences and biases could have potentially influenced the interpretation of the data in this study and therefore took the necessary steps to neutralize our perspectives.

Limitations

This was the first semester the course was designed, introduced, and taught, with only 15 students enrolled and included in the study. The length of the one-credit-hour course was two days (i.e., a *weekend course*). We recognize the duration of the course was a potential limitation to accurately reflect the complete transformative learning experience of students. Additionally, the content analysis of the qualitative data may have missed important perspectives, insights, and meanings of the students' learning experience during the course. It was also assumed that the student comments articulated their learning experience through identification of their perceptions, beliefs, and attitudes. We recognize some of the students may not have been able to articulate their experience as well through written word, or may have provided socially desirable comments instead of responses that would have been more representative of their personal feelings.

Findings

Content analysis of the theoretical coding and concept coding cycles provided evidence and explanations of the transformative learning process among students who completed the course. Theoretical findings related to research question one are presented first, followed by six emergent themes with sample comments and direct quotes for support to address research question two. Participant names and identifiable information are omitted to maintain confidentiality.

Research Question 1

A theoretical content analysis of students' comments from the two assessments revealed evidence of the transformative learning process among students. Table 2 provides the frequency of comments representing each phase of the transformative learning process. Student comments had the potential to be coded for multiple phases; therefore, the sum of the frequencies per phase equates to more than the total student comments (n = 210). Students indicated the experience of a disorienting dilemma either before or during the course in 51 comments. Students engaged in the second phase of the transformative learning, critical reflection, as indicated by 136 comments. Instances of engagement in dialogue and discourse due to the course were found in 105 student comments. The final phase of the transformative learning process, reflective action, was indicated by 30 student comments.

Table 2

Frequency of Comments Representing Each Phase of Transformative Learning and Samples

Phase	*f*	Sample Comment
1. Disorienting dilemma	51	"This class was quite eye opening for me. . . . I guess I didn't really realize the extent of the impact of slavery and the aftermath of slavery" (Student 1).
2. Critical reflection		
Level 1	37	"African Americans' impact on agriculture . . . is something I've never really given thought to" (Student 9).
Level 2	37	"I also didn't know who Fannie Lou Hamer was. . . . I feel like she had a huge impact" (Student 4).
Level 3	62	"I also will be able to be more conscious of the injustices that some of my students will face" (Student 15).

Table 2

Frequency of Comments Representing Each Phase of Transformative Learning and Samples, continued…

3. Discourse		
Level 1	6	"I think we can have difficult conversations and improve. . . . Hopefully in the future this will not really be a conversation that needs to be had" (Student 1).
Level 2	33	"It is not avidly talked about, but the conversations do need to happen. If I can educate myself, then maybe I can educate others. We believe that agriculture is an inclusive industry, but in reality, it might not be." (Student 7).
Level 3:	66	"The abolishment of slavery, freed men were promised 40 acres and a mule to begin their lives. . . so when this promise never came to fruition, they found themselves with 1 primary skill – and no means to use it. . . . It is silly to believe that this late start doesn't still affect AA professionals in the field" (Student 9).
4. Reflective action		
Intended	28	"I want to take this information back to my future classroom and teach about it" (Student 3).
Completed	2	"I noticed after the first day when I got home and none of my roommates understood what on earth African American Agriculture would be about, and I was able to give them a run-down from 1619-present" (Student 9).

In analyzing the data for students' complete transformation of learning (i.e., demonstration of all four phases), 14 (93.3%) students presented comments indicating at least one transformation in their learning about AAs in agriculture. One-third (n = 5) provided comments indicating one transformation in their learning and another one-third (n = 5) provided comments indicating two transformations. One student's comments indicated three transformations in their learning. Three students' comments indicated four transformations in their learning about AAs in agriculture. One student did not provide comments to indicate transformations in their learning; however, an incremental transformation of learning was indicated by comments reflecting dialogue and discourse (i.e., phase 3 of the transformative learning process), as noted in Table 2.

Research Question 2

Content analysis of student comments resulted in six emergent themes to describe the perceptions, attitudes, and beliefs students had about AA agriculture before taking the course and how they may have changed after completing the course. Interpretation of each emergent theme is discussed in detail with students' comments provided for support of the findings.

Theme 1: Convenience and Curiosity

The initial reason students chose to enroll in the course was most frequently due to convenience. Many students expressed their need for an additional credit hour, and the convenient timing of the course offering over two days made it an attractive option. Student 14 described the conversation with her advisor that led to her decision to enroll: "I had an advising meeting . . . and [my advisor] told me I was short one credit hour. I will be honest because I was short a credit hour is why I enrolled in this course."

Although convenience was the most significant deciding factor, students also expressed a curiosity to learn about a subject area in which they were not very knowledgeable. A consistent pattern indicated students had never really thought about AAs nor been exposed to many AAs, so their perspective was very limited. Student 1 stated, "I thought that the course would be interesting. . . . I have never really thought that much about [AA] people in agriculture, I guess because there aren't really any around where I am from, so I wanted to gain some perspective." Another student said, "I have always seen ag as mostly older, white men farming, and it is important for ag to experience diversification in order to get different perspectives" (Student 13). Students also acknowledged contributions of AAs to agriculture but admitted they did not know what those contributions were, like Student 12: "African Americans have made contributions to it [the agricultural industry], but I am unfamiliar with them."

Theme 2: Perceptions of Challenges

Students' initial reflections on entering the class were that they suspected AAs possibly faced unique challenges in agriculture; although, they could not confidently provide examples. When reflecting on the possibility of challenges among the AA community in agriculture, Student 1 said: "I suppose they do, although I am not exactly sure what they would be. . . . There is probably bias and ignorance within the industry." Some students also expressed an uncertainty about the presence of challenges and deemed to describe inclusivity within the agricultural community. Student 4 explained their perspective on unique challenges within the industry for AAs by stating: "In some ways yes and in some ways no. The agricultural industry is a very accepting industry, and I feel like we are an industry that doesn't judge people."

On the contrary, a few students discussed flaws within agriculture that might create potential challenges for AAs. As Student 8 explained, "I could see where African Americans could face prejudices in the agricultural world. In agriculture, there are a lot of old-school people in the industry that never grew out of the prejudices they may have grown up with." Student 15 also reflected on the validity of the challenges of AAs in not only agriculture, but life in general, by saying, "[T]hese individuals experience unique challenges in agriculture. . . . No matter how hard we try to exterminate racism, some people just won't understand empathy. . . . Racial discrimination, unfortunately, is still very real."

Student reflections after completion of the course revealed more assurance in their views toward the unique challenges of AAs in the agricultural industry. Many contributed the expansion of their viewpoint about the scope of the challenges to the interviews and discussions with current AA agriculturists during the course. After Student 3 talked with an administrator of an 1890 Land Grant University, they were able to explain the unique challenges of 1890 Institutions more clearly. This person stated: "[H]e mentioned about being an 1892 [*sic*] Land Grant University and how they still have trouble getting the funding they need. While discrimination and racism has improved over the years, there is still tons of room for improvement." Student 6 was also impacted by the interviews and stated: "After the interviews we conducted in class, this [challenges] became very clear. . . . Farming is seen as a traditional 'White male' job and breaking that image can be tough."

Several students also alluded to the complexity of the AA experience by explaining the perspectives on challenges within the AA community is often individualistic in nature. Student 11 explained this concept by saying, "I think African Americans experience very different challenges based on their own interactions and experiences. Based on the in-class interviews, some believed they had not experienced any challenges. Some, however, felt they had jumped through many hoops." Student 8 said: "It depends on the person. . . . I think the challenges are an individual experience and there is not a one-size-fits-all answer for if African Americans experience challenges in the industry."

Theme 3: Diversity Helps Agriculture but on a Production Level

When students were asked to consider implications of learning about AA agriculture many described how exploring this subject area would support diversity within the industry. Although students expressed the value of diversity and cultural awareness, it was with the narrow scope of enhancing the overall agricultural production practices and not necessarily for the value of adding cultural dimensions, enrichment, and experiences to the agricultural community. As Student 10 expressed, "For sure it's important for all industries to have diversity. Different groups from all around the world have different agricultural practices and can do things better than others. With everyone in the industry, you get the best product possible." Student 3 further reiterated this concept by stating: "Diversity is an important part of agriculture as a whole. Without other ethnicities, we might not have some of the agricultural practices we have today." Students also perceived this growth in diversity within the industry for production purposes was a need because of the increasing pressure to feed the world. "Agriculture faces many issues, and it would help if all humans came together to feed the world" (Student 8). Again, students seemed to be aware of the value of diversity, but the primary benefit seemed to be surface level and was linked to the variety of skills and approaches that could improve agricultural practices.

The value of broadened perspectives by developing relationships through exposure to diversity was also expressed by students but still relied on the production connection. "Having different ethnicities in the agricultural industry can help us develop different techniques and ways of life," shared Student 14. "People of different ethnic backgrounds should most definitely forge relationships within the agricultural industry. People have different perspectives, which is how we get different ideas and more diversity within the industry," reflected Student 15.

Theme 4: There is Power in Listening

During the course, students interacted with several members of the AA agricultural community. The students overwhelmingly indicated their interactions with these professionals were the most impactful aspects of the course to shifting their perspectives. Students perceived the success of their conversations in class was due to the opportunity the course afforded to have these interactions and the safe space and community it provided to do so. The latter allowed students to feel comfortable in discussing such difficult topics. Student 3 shared: "The interview portion of the class really helped my perspective. We can talk about African American agriculture all day long, but when you . . . talk to someone who is experiencing these challenges, it makes it feel real." Student 15 expressed the value of not being judged for not knowing:

> I have always had lots of questions about African American culture, but [I] have been too scared to ask as I was afraid to seem racist. I was able to get all my questions answered in a safe, non-judgmental environment through genuine conversations.

The importance of hearing perspectives and the imminent need to elevate AA voices and representation in agriculture to create a more inclusive environment was shared by most of the students. Student 8 explained in their assessment at the end of class: "To support African Americans in the industry, it is important to let them have a voice. I think many African Americans in agriculture feel looked down upon so it is important to listen to their voices." Student 3 also stated: "Creating a place where these individuals feel included and heard is vital to our growth as agriculturists [*sic*]." Student 9 shared the impact hearing personal experiences had on their perspective: "Hearing passionate and highly intelligent African American professionals in agriculture talk about their struggles, highlights, challenges, and successes really immersed me into the topic. It instantly transformed from classwork to real-life events and people. It was eye-opening and informative." Other student reflections indicated relationships built from deeper conversations could lead individuals to abandon internal bias or prejudice they may have. "It is also important for people of different ethnicities to form a relationship . . . Building those

relationships might help release some of the negative stigma and racism of minorities within the agricultural industry," shared Student 12.

Theme 5: People Should Know This!

In the reflections assessed at the end of the course, it was clear many students were confused as to why they had not learned this perspective of agriculture before but realized the importance of changing that reality for future students. "I could not believe I had never learned about some of the things you taught us. The part about the NFA really impacted me. I was so involved in FFA and never stopped to think about those before me," Student 12 stated. Student 7 reiterated this point by saying, "Most of us had never even heard of these events or momentous people who helped [*sic*] shape our industry. It helped open my eyes to the current issues."

Other students also appeared to see an inherent connection between the historical context of the course content to current racial issues faced by AAs today. Student 9 discussed this view: "It also opened my eyes more to the injustices that AA people have faced in this country, not socially but economically . . . [this] seems to be less talked about today. This is hugely important in today's society." Student 1 also expressed how understanding the past helped them realize perhaps why a smaller number of AAs are present in agriculture today by stating: "This course helped me to understand some of the barriers that are up against African Americans. I also didn't really realize the impact of the aftermath of slavery and how it perpetuated the decrease of African Americans in agriculture." Student 12 echoed this connection and suggested how this information could be used to increase diversity, "Another way we can support AAs is by being understanding [*sic*] of their history. By doing this, we can better understand . . . [and] encourage more African Americans to become involved with agriculture." Students also perceived the importance of sharing the AA story in agriculture. Student 9 strongly suggested:

> It is paramount to study African American agriculture. I probably would not have said that before I took the class. . . . The promises of economic freedom they were offered that never came, and how that has now impacted the African-American agricultural field today, is hugely important.

The *white-washing* of history and its ability to minimize the contributions AAs have made to this industry was alluded to by several students. Student 8 shared:

> It is important to not white-wash the history of agriculture since African Americans are a big part of American agriculture. . . . Hopefully, . . . African Americans will get more attention in academics for their contributions to agriculture."

Students also believed in the importance of keeping the story of AAs alive in agriculture. Student 15 explained, "[T]he agricultural industry would not be where it is today without the help of the African Americans who were horribly enslaved and forced to work on plantations. . . . This legacy is not one that should disappear."

Appreciation for the resiliency and victories of AAs in agriculture was shared by many students as well. Student 2 stated: "It is important to learn about these contributions, and celebrate the achievement of African American Agriculturists [*sic*]." Student 4 communicated the sentiment this way: "I also didn't know who Fannie Lou Hamer was before taking this class, and I feel like she had a huge impact on African American farmers' lives. . . . We should bring more recognition to this history." Many students also conveyed plans to continue to honor the legacy of AAs in agriculture. Student 6 said:

> I plan to teach my students about the NFA and FFA merger . . . the impact that African Americans had on the agricultural industry. . . . I will use role models such as Booker T. Washington and George Washington Carver to inspire my students.

Theme 6: Learning About This Will Improve the Profession

Based on the comparison between responses provided prior to and at the end of the class, students appeared to become more aware of the areas agriculture as a whole could improve and desired to work to create a more inviting space for AAs as a result of the course. Student 10 provided their perceived assessment of the agricultural community after taking this course by acknowledging present prejudice. This person stated: "The agricultural community is a very proud group but it's definitely very racist." Student 7 shared a similar perspective, but also saw an opportunity to use the content of this course to encourage a positive shift in the industry: "We believe that agriculture is an inclusive industry but in reality, it might not be. By studying African Americans in agriculture, we can break down those barriers and reach a number of people."

In their responses at the end of the course, students more honestly admitted to their initial reservations toward taking the course that they perhaps did not disclose in their responses at the beginning of the course. They also shared their experience of overcoming those reservations. Student 12 stated: "I was nervous about taking it at first because I didn't know what to expect. I'm so glad I needed to take this course, because I ended up learning a ton." Student 14 more openly admitted to a lack of knowledge in the responses at the end of the course and explained how their perspective had been broadened by taking the course. "We are uneducated about African American agriculture. By taking this course, I was able to learn new things that I never knew before and [I now] understand the challenges African Americans faced" (Student 14). A long-term benefit gained from taking the course was how learning would now be approached by student 12. This person stated: "This course personally impacted me by encouraging me to be more open to learning opportunities. . . . I will be more open now to listening to others' perspectives and being more open to difficult, but beneficial conversations."

With many of the students being agricultural education majors, plans to use what they learned to create a more inclusive environment in their future classrooms was shared. Student 12 stated:

> We talked a lot about encouraging young African Americans to get in ag classes in high school. This class showed me how to do that and how important that is. Because of that, I will be using what we learned to encourage people of all ethnicities to join my classes.

Student 13 suggested the incorporation of more information about AAs in agriculture in the educational system would be incredibly helpful to expand the perspectives of others. Student 15 even suggested all Oklahoma State University agricultural education students should be required to take this course to become better teachers by stating: "I truly believe that every ag ed [*sic*] student at Oklahoma State University should be required to take this course, as it will help us [agricultural education majors] to teach future generations about African American agriculture."

Reflections at the end of the course also indicated that most students perceived the learning of this information as a positive contributor toward eliminating some of the challenges experienced by AAs within agriculture. Student 15 stated: "[W]e should be working to fix this injustice. . . . If more people knew about the challenges that African American farmers, professionals, and educators face, I believe some of these challenges would go away." Student 4 stated: "Being able to understand the struggles and challenges of African Americans in the agricultural industry will help us better help those people that are struggling and help them overcome those struggles and challenges."

Conclusions, Implications, and Recommendations

As indicated by the students' comments, all four phases of the transformative learning process (Boyer et al., 2006; Marsick & Mezirow, 2002) were experienced during the course. However, the transformative learning experience was unique for each student. Although most students showed evidence of at least one full transformation in their understanding of AA agriculture (i.e., evidence of all four

phases of transformative learning), they may have only experienced incremental shifts toward other phases. Transformative learning theory acknowledges change in understanding occurs at different rates among students depending on a variety of factors (Mezirow, 2000); therefore, the evidence of even incremental change across the concepts is a positive indicator for the assessment of the course. The intentional development of the course undergirded by transformative learning theory allowed students to experience challenges to their belief structures, which caused critical reflection of their preconceived assumptions and in most cases, critical dialogue and discourse with their peers and the instructor to address cognitive dissonance. Almost all students, as a result of their new understandings, further demonstrated reflective action by indicating how the shifts in their understandings have or will impact their personal actions.

The course allowed students an opportunity to learn the history of another culture and improve their empathy for those who are different from them by cultivating an authentic value of diversity, which is consistent with previous studies (Ambe, 2006; LaVergne et al., 2012; Vincent et al., 2014). Apprehension to take the course was evident; however, even with the presence of apprehension, and high levels of engagement, transformative learning occurred because students felt safe in their learning environment. Therefore, students were able to demonstrate growth in their perspective and began to view agriculture from the lens of AAs, which will benefit them as future educators.

The findings of our study go beyond illuminating the implicit bias of White preservice teachers and reveal how this course made them feel and think differently. Subsequently, students were able to communicate strategies they plan to implement as future SBAE teachers to combat various prejudices and challenges faced by AAs based on what was learned from the course. Lavergne's et al. (2012) study stressed the significance of utilizing culturally responsive teaching to support the success of students of color, and evidence from this study suggests the exposure to AA professionals the students received during AGED 4990 is a first step toward becoming better advocates and supporters of AA students in SBAE.

Although students had limited awareness and exposure to the historical and present experiences of AAs within agriculture, they demonstrated a desire to learn more after being introduced to the curriculum. Courses such as this one should be implemented by agricultural education programs at the postsecondary level. If SBAE programs seek to recruit more minorities, specifically AA students and teachers, to become more reflective of the nation's population, it is critical for agricultural education curricula to become culturally inclusive. On that premise, "it is not sufficient to merely expect students to accept the same antiquated models of agricultural education programs or for schools to be able to hire a few ethnically diverse teachers to meet the need" (Vincent & Torres, 2015, p. 65). A portion of the responsibility to construct affirmative environments where multicultural initiatives succeed remains with the teacher training institutions preparing and inspiring preservice teachers to appreciate a multitude of cultures (Ambe, 2006).

Recommendations for Practice and Research

Collectively, our results appear consistent with the growing need to introduce agricultural undergraduate students to multicultural education to encourage more appreciation for diversity in our classrooms (Ambe, 2006). Agricultural education programs at the postsecondary level should develop and integrate more courses that focus primarily on perspectives and viewpoints of minorities. As Hurt (2019) indicated, there are no studies focused primarily on the AA agricultural experience. As society becomes more pluralistic in nature, this must be addressed. To create a more inclusive environment in our profession, students must gain a deeper understanding of the complexity of agricultural experiences of AAs in the United States (King, 2019). Multicultural education is a tool to help students begin to identify, understand, and celebrate racial differences instead of only acknowledging them (Rodriguez & Lamm, 2016). In addition to AAs, the course should be replicated and expanded to focus on other ethnic minority

groups. It is also important to recognize that the success of multicultural education courses, such as the one featured in this study, are dependent on the instructor's intentionality for creating a safe and inclusive learning environment.

As students continue to complete diversity courses, future research should investigate how exposure during multicultural education courses impact SBAE teachers' ability to recruit and retain minorities in their agricultural programs. Considering our participants' numerous mentions of the positive experience conducting interviews, future studies also should evaluate the efficacy of instructional strategies such as interviews when measuring student learning. This study focused on the perceptions of students enrolled in the AA Agriculture, but we also recommend additional assessment of the students several months later to understand the transformative learning process over an extended period of time. We encourage agricultural education programs to consider the historical, contextual, and existing experiences of AA agriculturists when pursuing a deeper understanding of AAs. Finally, additional research should examine the perspectives of AA professionals interviewed during the course to provide insight for instructors as they prepare to incorporate content and facilitate discussions about diversity in their curricula.

References

Ambe, E. B. (2006). Fostering multicultural appreciation in pre-service teachers through multicultural curricular transformation. *Teaching and Teacher Education, 22*(6), 690-699. https://doi.org/10.1016/j.tate.2006.03.005

Balvanz, P., Barlow, M. L., Lewis, L. M., Samuel, K., Owens, W., Parker, D. L., De Marco, M., Crowder, R., Williams, Y., Barker, D., Lightfoot, A., & Ammerman, A. (2011). The next generation, "that's why we continue to do what we do": African American farmers speak about experiences with land ownership and loss in North Carolina. *Journal of Agriculture, Food Systems, and Community Development, 1*(3), 67-88. https://doi.org/10.5304/jafscd.2011.013.011

Banks, J. A., & Banks, C. A. M. (Eds). (2001). *Multicultural education: Issues and perspectives* (4th ed.). Allyn & Bacon.

Berry, B. (2011). *Teaching 2030: What we must do for our students and our public schools, now and in the future.* Teachers College Press.

Boyer, N. R., Maher, P. A., & Kirkman, S. (2006). Transformative learning in online settings: The use of self-direction, metacognition, and collaborative learning. *Journal of Transformative Education, 4*(4), 335-361. https://doi.org/10.1177/1541344606295318

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). SAGE Publications.

Crotty, M. (1998). *The foundations of social research: Meanings and perspective in the research process.* SAGE Publications.

Dagbovie, P. G. (2006). Strategies for teaching African American history: Musings from the past, ruminations for the future. *The Journal of Negro Education, 75*(4), 635-648. https://www.jstor.org/stable/40034663

Doerfert, D. L. (Ed.). (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015.* Texas Tech University, Department of Agricultural Education and Communications. http://aaaeonline.org/resources/Documents/AAAE%20National%20Research%20Agenda.pdf

Dubois, W. E. B. (1973). *Black reconstruction in America, 1860-1880.* Atheneum.

Harris, R. L., Jr. (1992). *Teaching African-American history* (1992 revised ed.). Historical Association.

Hurt, R. D. (2019, February 27). *Agriculture and agricultural labor.* Oxford Bibliographies. https://www.oxfordbibliographies.com/view/document/obo-9780190280024/obo-9780190280024-0068.xml

Jones, K. R., & Bowen, B. E. (1998). A qualitative assessment of teacher and school influences on African American enrollments in secondary agricultural science courses. *Journal of Agricultural Education, 39*(2), 19-29. https://doi.org/10.5032/jae.1998.02039

Jones, W. A., LaVergne, D. D., White, C. D., & Larke, A., Jr. (2021). The voices of African American agriculture teachers in one southern state regarding the NFA/FFA merger. *Journal of Agricultural Education, 62*(2), 39-52. https://doi.org/10.5032/jae.2021.02039

King, L. J. (2019). Interpreting Black history: Toward a black history framework for teacher education. *Urban Education, 54*(3), 368-396. https://doi.org/10.1177/0042085918756716

King, S. H. (1993). The limited presence of African-American teachers. *Review of Educational Research, 63*(2), 115-149. https://doi.org/10.2307/1170470

LaVergne, D. D., Jones, W. A., Larke, A., Jr., & Elbert, C. D. (2012). The effect of teacher demographic and personal characteristics on perceptions of diversity inclusion in agricultural education programs. *Journal of Agricultural Education, 53*(3), 84-97. https://doi.org/10.5032/jae.2012.03084

Lawver, R. G., Foster, D. D., & Smith, A. R. (2018). *Status of the U. S. supply and demand for teachers of agricultural education (2014-2016).* http://aaaeonline.org/TeacherSupply-and-Demand.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* SAGE Publications.

Marsick, V., & Mezirow, J. (2002). New work on transformative learning. *Teachers College Record.* http://www.tcrecord.org

Merriam, S. B., & Caffarella, R. S. (1999). *Learning in adulthood: A comprehensive guide* (2nd ed.). Jossey-Bass.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley & Sons.

Mezirow, J. (1978). *Education for perspective transformation: Women's re-entry programs in community colleges.* Teachers College, Columbia University.

Mezirow, J. (1990). *Fostering critical reflection in adulthood*. Jossey-Bass.

Mezirow, J. (1991). *Transformative dimensions of adult learning.* Jossey-Bass.

Mezirow, J. (2000). *Learning as transformation*. Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). SAGE Publications.

Moon, F. F. (2007). *Blacks in agriculture* [Unpublished manuscript]. Library and Information Science Research Papers. Tennessee State University.

Musu-Gillette, L., Robinson, J., McFarland, J., KewalRamani, A., Zhang, A., & Wilkinson-Flicker, S. (2016). *Status and trends in the education of racial and ethnic groups 2016. NCES 2016-007. National Center for Education Statistics.* https://eric.ed.gov/?id=ED567806

National FFA Organization. (2018). *2017 National FFA foundational annual report.* https://www.ffa.org/wp-content/uploads/2018/09/2017-FFA-Foundation-Annual-Report.pdf

Neyland, L. W. (1990). *Historically Black land-grant institutions and the development of agriculture and home economics 1890-1990.* Florida A&M University Foundation Inc. https://files.eric.ed.gov/fulltext/ED330503.pdf

Ownby, T. A. (2003). A crude and raw past: Work, folklife, and anti-agrarianism in twentieth-century African American autobiography. In Hurt, R. D. (Ed.), *African American life in the rural south 1900-1950* (pp. 27-53). The Curators of the University of Missouri.

Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). SAGE Publications.

Reynolds, B. J. (2002). *Black farmers in America, 1865-2000: The pursuit of independent farming and the role of cooperatives* (Vol. 194). US Department of Agriculture, Rural Business-Cooperative Service. https://naldc.nal.usda.gov/download/20698/PDF

Rodriguez, M. T., & Lamm, A. J. (2016). Identifying student cultural awareness and perceptions of different cultures. *Journal of Agricultural Education, 57*(2), 106-118. https://doi.org/10.5032/jae.2016.02106

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). SAGE Publications.

Talbert, B. A., & Larke, A., Jr. (1995). Factors influencing minority and non-minority students to enroll in an introductory agriscience course in Texas. *Journal of Agricultural Education, 36*(1), 38-45. https://doi.org/10.5032/jae.1995.01038

Tuskegee University. (2020). *Dr. Booker Taliaferro Washington.* https://www.tuskegee.edu/discover-tu/tu-presidents/booker-t-washington

United States Department of Agriculture. (2014). *2014 census of agriculture.* https://www.nass.usda.gov/Publications/Highlights/2014/Highlights_Black_Farmers.pdf

United States Department of Education. (2016). *The state of racial diversity in the educator workforce.* https://www2.ed.gov/rschstat/eval/highered/racial-diversity/state-racial-diversity-workforce.pdf

Vincent, S. K., Kirby, A. T., Deeds, J. P., & Faulkner, P. E. (2014). The evaluation of multicultural teaching concerns among pre-service teachers in the South. *Journal of Agricultural Education, 55*(1), 152-166. https://doi.org/10.5032/jae.2014.01152

Vincent, S. K., & Torres, R. M. (2015). Multicultural competence: A case study of teachers and their student perceptions. *Journal of Agricultural Education, 56*(2), 64-75. https://doi.org/10.5032/jae.2015.02064

Wakefield, D., & Talbert, B. A. (2000). Exploring the past of the New Farmers of America (NFA): The merger with the FFA. *Proceedings of the 27th National Agricultural Education Research Conference, San Diego, CA, 27*, 420-433. http://www.aged.caf.wvu.edu/Research/NAERC-2000/web/h4.pdf

Warren, C. K., & Alston, A. J. (2007). An analysis of diversity inclusion in North Carolina secondary agricultural education programs. *Journal of Agricultural Education, 48*(2), 66-78. https://doi.org/10.5032/jae.2007.02066

Westbrook, J. R., & Alston, A. J. (2007). Recruitment and retention strategies utilized by 1890 Land Grant Institutions in relation to African American students. *Journal of Agricultural Education, 48*(3), 123-134. https://doi.org/10.5032/jae.2007.03123