THE (UNSPOKEN) HISTORY OF AGRICULTURE: UNDERREPRESENTED POPULATIONS IN AGRICULTURE EDUCATION CURRICULUM

BY

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THESIS

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ABSTRACT

The purpose of this summative content analysis was to examine and interpret components of agricultural education curriculum through a multicultural lens. In this content analysis, we analyzed four lessons from an agricultural education curriculum company that is utilized in many different states in the U.S. The research questions that guided this study include: (1) What is the frequency at which underrepresented populations are mentioned throughout the historical portions of the Agriculture, Food, and Natural Resources; Animal, Plant, and Soil Sciences; and Natural Resources and Environmental Systems curriculum created by a widely-used Agriculture Education curriculum company? (2) How are these underrepresented populations depicted in the Agriculture, Food, and Natural Resources; Animal, Plant, and Soil Sciences; and Natural Resources and Environmental Systems curriculum? (3) What is the priority regarding content about these underrepresented populations?

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CHAPTER 1: INTRODUCTION

> "The history of agriculture is as valuable to the agriculturalist as political history is to the political economist or church history to the theologian" (Carrier, 1923, p. 1).

The history of agriculture in the U.S. is long and rich, but unfortunately is not often presented to agricultural education students or even students in general, in a nuanced manner that is situated within the context of larger American and global history. U.S History, as taught in schools across the country and directed by state curriculum standards, often speaks from a Eurocentric narrative (Shear, Knowles, Soden, & Castro, 2015). To date, there is no comprehensive examination of the narratives presented in agricultural education curricula. Therefore, the logical assumption can be made, based on U.S. Social Studies literature, that agricultural education curriculum that includes historical components will also adopt this same Eurocentric Narrative. Additionally, the underrepresentation of people of color in agricultural education classrooms the National FFA Organization, and the agricultural industry provides an environment where this narrative is less likely to be challenged.

People of color can be found within the agricultural industry, however they are most likely to be employed in the laborer and menial positions. Even when people of color can and do meet the educational and experiential requirements for degree-requiring positions in agriculture, they are less likely to choose entry into agricultural careers (Talbert, Larke, & Jones, 1999). Could this biased narrative be contributing to the underrepresentation of people of color enrolling in colleges of agriculture and filling degree-requiring positions in the industry?

This study will ultimately explore agriculture curriculum, but more specifically, historical contexts through analysis of literature in four distinct capacities: the History of U.S. Agriculture, the portrayal of underrepresented populations in U.S. History textbooks, diversity in agriculture,

and diversity in Agricultural Education. These capacities will aid in building a better understanding of why Agricultural Education curriculum is what it is today.

CHAPTER 2: REVIEW OF LITERATURE

History of U.S. Agriculture

In general, resources regarding the History of U.S. Agriculture are seemingly vague or altogether missing on the pre-colonial era. The timeline by Spielmaker and Grow (2014) on the National Agriculture in the Classroom website titled *Growing a Nation: The Story of American Agriculture* starts in 1607 with the settlement of Jamestown. The overshare of information pertaining to colonists and majority groups is also very prominent in the history/social studies books for one of the largest textbook publishers in the United States, Pearson. Most of the information presented on underrepresented populations in these books are based on their geographical locations in respect to areas where colonists conquered rather than their practices or advancements prior to colonial arrival (Davidson, 2011).

Along with the lack of information on underrepresented populations mentioned above, there are also few sources that depict the contributions and achievements from these underrepresented populations in the U.S. Agriculture History narrative. One source that does happen to speak to a more diversified narrative is *The Beginnings of Agriculture in America* by Lyman Carrier. Carrier (1923) expresses that there were several classes of Native Americans, with some living on the lower end of the social scale living like “wild beasts” (p. 21) while those in the middle to higher social scales had “fixed habitations” (p. 21). Carrier explains that when Europeans documented the contact they made with Indigenous people that they very well could have contact with one of the tribes on the lower social scale, but these documentations often included personal prejudices, so no one account can be used to generalize the life of all American Indians.

The “fixed habitations” Carrier (1923) speaks of helps refute the claims of most Native Americans being hunters and gatherers. Carrier (1923) also speaks about how many tribes tilled soil and mainly survived by using the agricultural products they produced over hunting and gathering. It is narratives such as the one Carrier describes that help show the contributions and achievements of underrepresented people throughout the History of U.S. Agriculture. Narratives such as these exist, but they are buried under narratives that only highlight the contributions made by majority populations.

The implications that lie behind the narratives common in Agriculture Education curriculum are that the narratives of underrepresented populations are not as important. The lack of importance and details that go into historical content for not only the U.S. Agriculture curriculum, but also U.S. History curriculum shows the racialized history that our country has and currently still faces. In order to overcome the biases in U.S. Agricultural History, the narratives and history of the underrepresented populations such as indigenous populations, slaves, Transcontinental Railroad workers, etc., need to be shared to help diversify and clarify the contributions they made.

Portrayal of Underrepresented Populations in U.S. History Textbooks

There may be some confusion why discussion of U.S. History textbooks is included in a study on agriculture education curriculum. This section will help inform how teachers teach Ag History as well as provide a context through which Ag Ed students interpret Ag Ed history as they most likely first have contact with U.S. History concepts.

When it comes to thinking about the founding of the United States of America what comes to your mind? If you attended a public school in the United States, it is likely that you would answer the previous question with some or all of the following: The Pilgrams,

Thanksgiving, the 13 original colonies, the American Revolution, Paul Revere, as well as Indians, Manifest Destiny, and westward expansion (Shear et al., 2015). Though there are debates within higher education regarding the United States' start as a country, many of these are Eurocentric in nature further establishing the simplistic views such as the ones listed above. Shear et al. (2015) explained, "A Eurocentric narrative causes fissures in society, lacking complexity and excluding alternative voices from official story of the United States" (p. 69).

McCarthy's (1990) comments regarding the roles that Caucasian educators and textbook publishers play in the realm of U.S. History helps display the importance and need for alternative stories by underrepresented populations in the United States. In 2012 the agriculture field was made up of 92% non-Hispanic white individuals (United States Department of Agriculture, 2014). With agriculture still being a majority white field the need to unearth and share additional stories by underrepresented populations are pertinent to the history of agriculture as well as the future of agricultural education.

One would imagine that the nature of teaching historical lessons would be to try making curriculum as historically accurate as possible, as well as trying to incorporate diverse populations into daily lessons. According to Ronald Evans, this is not typically the case. Evans (2006) expresses that Americans struggle with accurate historical representations and details, especially of underrepresented populations, because they are blinded by pride while ultimately wanting to view U.S. history as a good representation of our society.

Evans's statement introduces a supplemental inquiry regarding different areas of U.S. history. If U.S. history is lacking meaningful representations of underrepresented populations, are other types of history, such as the History of United States Agriculture also missing these representations?

Diversity in Agriculture

Throughout the United States' history, innovation and improved practices in the field of agriculture have helped provide humans their basic needs. These improved practices and innovations have not come free, though. They have often come at the cost of those that are considered to be a "less expensive" labor pool. From the ten to fifteen thousand Chinese railroad workers imported from Guangdong to work on the Transcontinental Railroad (Stanford University, 2016), the 49% of Hispanics that work long days and nights for little pay as graders and sorters of agricultural products so the world can have access to "cheap" produce (United State Department of Commerce, 2012), to the ownership and use of slaves for free labor as well as seemingly non-existent contributions women made to agriculture because the Department of Agriculture failed to record any contributions women made to the field during that time (Palm, 2012). Each of these examples pays homage to an underrepresented population used as cheap labor.

These along with several other accounts of "less expensive" laborers as well as those poorly reported upon do not receive any recognition for their contributions to the achievements in the field of agriculture. The examples mentioned above help to better explain the systemic and systematic oppression of underrepresented populations being "lower beings" not worthy of being recognized as well as forced to be laborers that are seeming "less important" than their white counterparts.

Henry Kissinger (1957) once stated, "It is not often that nations learn from the past, even rarer that they draw the correct conclusions from it" (p. 331). Having better knowledge of historical examples such as the ones presented can help bring a better understanding and clarity to the importance of hindering the continuous repetition of history in these subject areas. Social

injustices and inequalities throughout the history of agriculture need addressing, underrepresented populations need representing, and their stories need telling so that the agriculture field can continue to grow and diversify accordingly.

Diversity in Agricultural Education

It would be difficult to gauge how diverse every Ag Ed program is throughout the United States, so statistics from the largest Ag Ed organization, the National FFA, will be used. According to the National FFA Organization (2016) 40% of members are non-disclosed, 13% of members are Hispanic/Latino of any race, 3% of members are Black, non-Hispanic; 1% of members are American Indian, another 1% of members are Asian, Native Hawaiian, or Pacific Islander; and the last 1% of members are two or more races.

Though the United States is ever-changing demographically and society is becoming more diverse, agricultural education programs and curriculum do not seem to be following suit. Instead, Ag Ed Curriculum appears to follow the trend of U.S. History curriculum in which the trend is to keep the narrative the same, representative of the dominant, white culture.

Some may wonder why ag education has not been able to interest underrepresented students in taking their classes or being a part of their organizations, such as the FFA. For this, one must look back at the largest influencing factor for black, male students interested in agriculture, the NFA and FFA merger.

The New Farmers of America merger into the National FFA Organization is a questioning subject for many years. While those loyal to the FFA celebrate the merger as a success and strengthening tool, there have been articles written that point out questionable motives in regards to the lack of NFA members in leadership positions as well as a decline of black leaders and role models retained in higher leadership positions post-merger.

It is no secret that the number of African-American students participating in the FFA has dwindled significantly. Wakefield and Talbert (2000) expressed that the NFA had, “58,132 active members at its height in 1963,” (as cited in Norris, 1993; Strickland, 1994) while as of 2016 the National FFA Organization (2016) reported only 3% of active members identifying as Black or African American.

NFA members had few leadership opportunities and no role models to help them transition into this new organization. Though the merger happened over 50 years ago, the story has not changed. There is still a lack of diversity in agricultural education due largely in part to the lack of desire of agriculturalists to open their mind to more diverse perspectives, as well as a lack of multi-culturally competent role models/teachers available to help guide them (Wakefield & Talbert, 2000).

Before viewing the competency levels of agriculture teachers, agricultural education and the level of multi-culture that exists within needs considering. Vincent and Torres (2010) explained that there is not a very high level of multi-culture that exists within agricultural education and that there are significant gaps between the ethnic demographics of teachers and students. Vincent and Torres suggested that with a cultural shift comes a fundamental change, “Either aggressively pursue methods to draw a diverse pool of new teachers into the discipline or remain a course of study with teachers whose backgrounds are not reflective of the students they teach” (as cited from Bowen, 2002). Better diversity training for educators in this field could ultimately help teachers learn how to connect with underrepresented students and contribute to diversifying the field with individuals of differing perspectives.

Based on the results of the NFA and FFA merger, Vincent and Torres (2010) expressed that “This attitude [the lack of acceptance of students leading to a decline of African American

FFA membership] reflects racial prejudice and a lack of support for the culturally different individuals that have an interest in agriculture" (p. 33). Vincent and Torres (2010) also expressed that a more diverse picture of agricultural education is a reality if multicultural competence existed.

The need for diverse and multicultural competent teachers in the Agriculture Education field is evident. The Ag curriculum analyzed in this study was created entirely by agriculture teachers from the Midwest. This curriculum will be analyzed with respect to historical events, people, and contributions to agriculture by people from a multicultural education perspective.

Conceptual Framework

Multicultural Education

The conceptual framework of Multicultural Education as described by James Banks (1997) was utilized for the current study. This framework was implemented as the lens through which interest was sparked in examining the agricultural education curriculum for inclusivity and historical accuracy with respect to underrepresented minorities and people of color. Guiding principles of multicultural education underpinned the development of research questions, framework for coding, analysis, and interpretation of data.

The guiding principles behind this study were: (1) To check the authenticity of the curriculum (Louie, 2006); (2) Researchers relate themselves to the text and critique the individuals and events included; (3) Implement additional research efforts to make sure curriculum is historically accurate; (4) Discover areas within the curriculum that lack diversity and/or speak of underrepresented populations monolithically, lesser, etc.

CHAPTER III: METHODOLOGY

Problem

A need exists to analyze historical content in Agriculture Education curriculum. There is a seemingly evident trend that U.S. History in general is dominated by majority white, male figures, and the narrative behind U.S. Agriculture History as well as Agriculture Education curriculum is not far behind. From the manner in which underrepresented populations are recognized to the sheer lack of representation in historical texts, Agriculture Education curriculum needs to become diversified and inclusive. Failure to do so hinders agriculture educators relating U.S. Agriculture History to students in underrepresented populations and also providing a more complete narrative to all students.

Purpose and Objectives

The purpose of this summative content analysis was to examine and interpret components of agricultural education curriculum through a multicultural lens. In this content analysis, we analyzed four lessons from an agricultural education curriculum company that is utilized in many different states in the U.S. We developed three main research questions for investigation:

1. What is the frequency at which underrepresented populations are mentioned throughout the historical portions of the Agriculture, Food, and Natural Resources; Animal, Plant, and Soil Sciences; and Natural Resources and Environmental Systems curriculum created by a widely-used Agriculture Education curriculum company?
2. How are these underrepresented populations depicted in the Agriculture, Food, and Natural Resources; Animal, Plant, and Soil Sciences; and Natural Resources and Environmental Systems curriculum?

3. What is the priority regarding content about these underrepresented populations?
    a. Are these underrepresented populations only being mentioned in the curriculum and not in the student assessment?
    b. Are these underrepresented populations being mentioned in the curriculum as well as in the student assessment?

Methods

Content analysis, as a method of research, is founded in both quantitative and qualitative methodologies. The specific type of content analysis utilized in the current study is called summative content analysis and contains both quantitative and qualitative means of analysis and interpretation of data (Hsieh & Shannon, 2005). As defined by Hsieh and Shannon (2005), a summative content analysis is initiated through a quantification of keywords, which is a process that will continue throughout the data analysis. The list of keywords originates through either the researcher interests or a literature review. Our list of keywords is revealed in the findings section and are those that are relevant to agriculture as viewed through a multicultural, as opposed to Eurocentric, lens.

For this curriculum analysis using summative content analysis, we began with a search and quantification of terms falling within four categories we identified prior to initiating the data analysis. All items of the lesson plan were analyzed including: lesson plans, learner activities, instructional materials/aids, and assessments. As we searched the text, we input each qualifying item into an Excel spreadsheet with the location and surrounding text in subsequent columns to provide context for the qualitative portion of analysis. To complete the qualitative analysis, we worked through several different rounds of each researcher open-coding using an inductive

process in which a qualitative codebook was created (Creswell, 2014), followed by consensus-reaching before diving back into the curriculum for deeper analysis.

Selection of Lessons for Analysis

To address our three research questions, we first set the inclusion and exclusion criteria for the courses to be included for further exploration of the curriculum in which each lesson of the curriculum included lesson plans, learner activities, and assessments. The courses were chosen out of thirteen through an examination of the titles of lessons and cursory review of the lessons potentially containing content relevant to historical events or mentioning individuals. Three distinct curriculum areas emerged as meeting our criteria for inclusion at a much greater level than the others: "Agriculture, Food, and Natural Resources" (AFNR), "Animal, Plant, and Soil Science" (APSR), and "Natural Resources and Environmental Systems" (NRES).

We printed and coded 237 lessons out of the four selected curriculum areas, specifically looking for mention of historical data or individual names. From these coded lessons, we selected the items for study using inclusion criteria of any lesson that met at least one of the following conditions: at least four individuals included or historical events as significant component. Lessons were excluded that did not meet the previous two conditions. Of the 237 lessons analyzed, four lessons were selected for deeper analysis based on a large amount of historical data present in the subject matter. The lessons and curriculum chosen were such: *History of U.S. Agriculture Up to the 20th Century*, and *History of U.S. Agriculture from the 20th Century to Today* both from the "Agriculture, Food, and Natural Resources" curriculum; *Natural Resource Conservation and Preservation* from the "Natural Resources and Environmental Systems" curriculum; and *Improving Agricultural Plants and Animals* from the "Animal, Plants and Soil Sciences curriculum."

Data Analysis and Interpretation

The first round of analysis was quantitative in nature and sought text that met one or more of four categories, the first being text that indicated "underrepresented populations in agriculture." This category includes people of color and women. Separate from the underrepresented populations in agriculture category was "White men" which simply encompassed any reference to White men, institutions/organizations of/for White men, and contributions by White men. A third category was "information to be challenged or questioned as misleading or false" which included any statements the researchers could not immediately verify and deemed worthy of further investigation. Finally, the last category included "additional information that helped the researcher better understand the context of the curriculum." These items were all recorded in an Excel spreadsheet for each of the four lessons we analyzed for this study. Each category was totaled for number of items in addressing Objective 1.

The second round of coding addressed Objectives 2 and 3 through a qualitative analysis and interpretation of the lessons that were previously coded and quantified, allowing us to flag portions of text for further analysis qualitatively. The process began with examination of the Excel spreadsheets containing all instances of key terms and their surrounding context. Each researcher independently open-coded this document for themes with corroboration and consensus-taking that followed. After each round, we went back to the original text to confirm and re-examine our codes as we developed sub-themes. These sub-themes included, but are not limited to the following: Native Americans as monolithic, incomplete description of people of color, positive reference to an underrepresented population, etc. The last round of coding was devoted to narrowing the sub-themes into themes and color-coding them throughout the researcher's spreadsheet. This process was inductive, allowing us to correct and alter categories

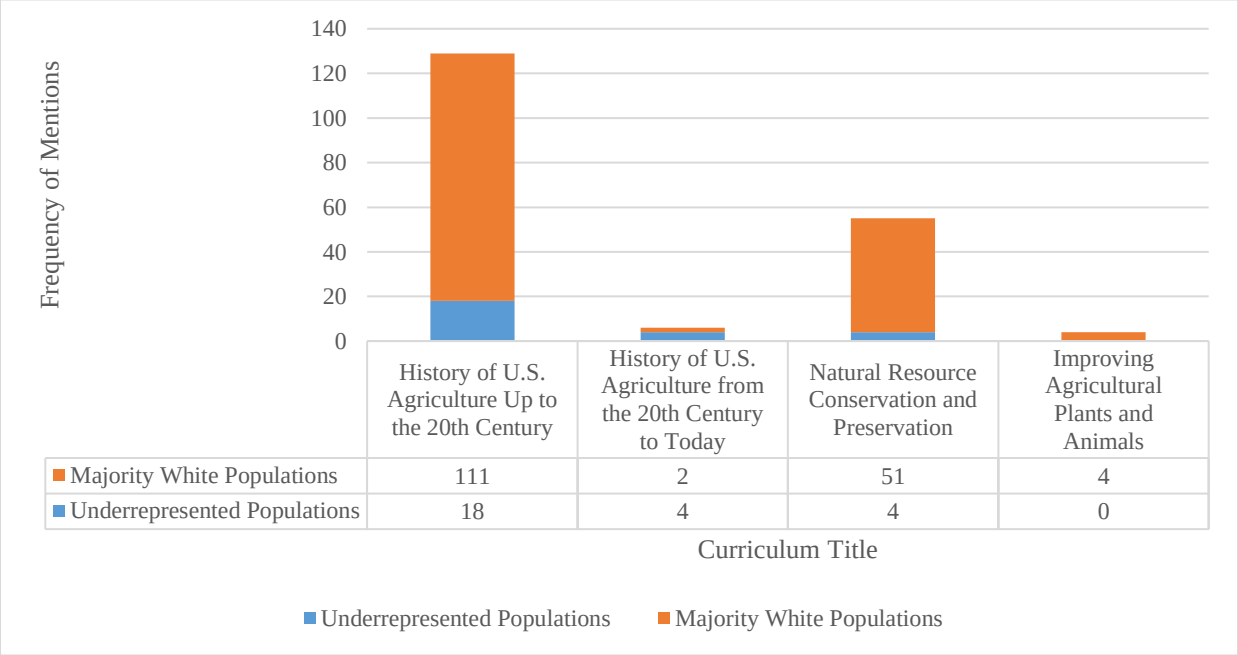
and sub-themes as needed when new information was discovered as text components were examined for accuracy.

CHAPTER IV: FINDINGS

Objective 1: Frequency of Different Populations Mentioned

The following section provides the frequency in which the four pieces of analyzed curriculum mention underrepresented populations versus majority white populations. For this, anytime a majority white population was said (i.e. European colonists, European settlers, White men, etc.) then they were counted under the "White Majority Populations" section. Anytime an underrepresented population was mentioned (i.e. Native Americans, Mesoamericans, Black men, White women, etc.) then they were counted under the "Underrepresented Populations" section.

Figure 1. *Frequency of mentions of majority White populations vs. Underrepresented populations.*



There were 26 references to underrepresented populations, as compared to 168 references to majority white populations. It is apparent that there was a lack of representation of both populations in the *History of Agriculture from the 20th Century to Today* and that is due to this lesson having more events mentioned focusing around inventions of the time, rather than who made them. Those mentioned in this lesson for the underrepresented populations were either subject to tokenism or expressed monolithically, which were also common sub-themes

throughout all of the lessons. Throughout the four lessons, there were many mentions of specific White men, but there were very few mentions of distinct people of color or underrepresented individuals.

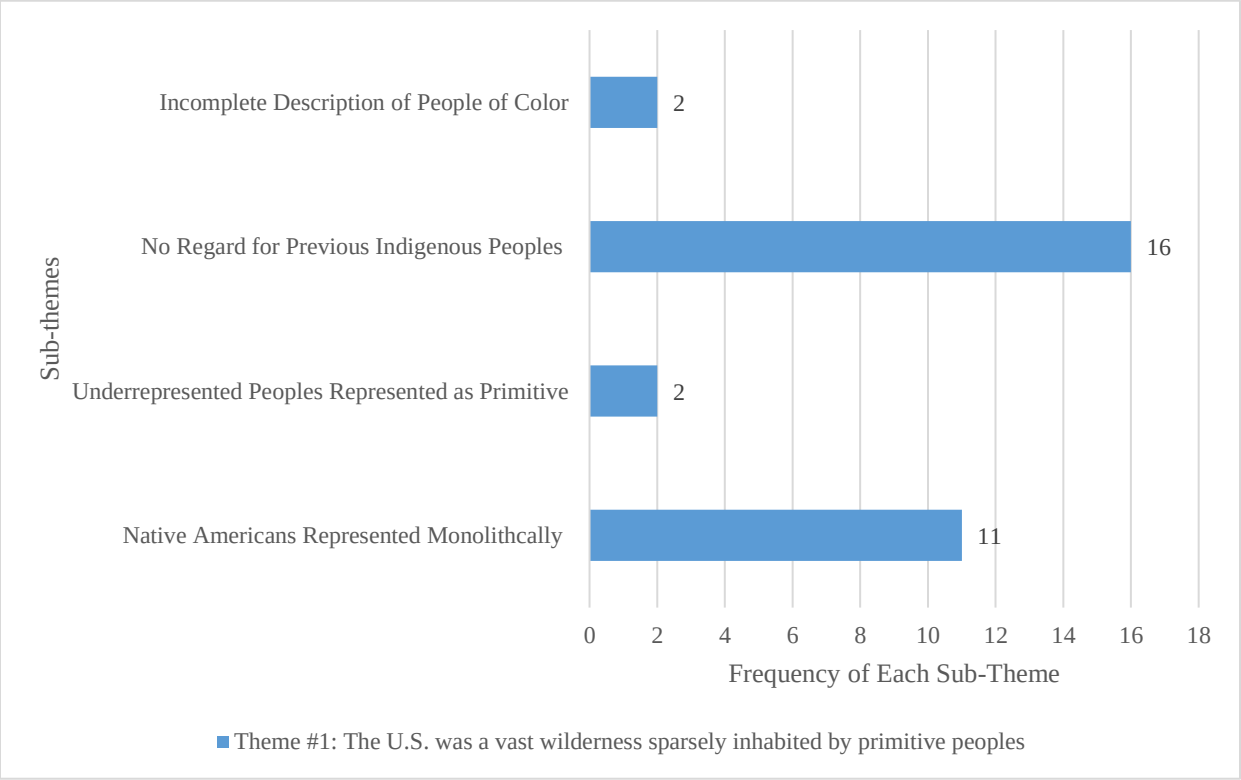
Objective 2: Depiction of Underrepresented Populations

This section will provide in-depth qualitative analysis to answer question two: "How are underrepresented populations depicted in the 'Agriculture, Food, and Natural Resource;' 'Animal, Plant, and Soil Sciences;' and 'Natural Resources and Environmental Systems' curriculums?" For this section, the researcher found five main themes which were broken up into sub-themes. One should note that though there are themes that may seem more invested in the majority white populations that these needed to be brought to light to aid underrepresented populations in receiving the representation that they deserve. This section has dedication towards depicting these underrepresented populations.

Theme #1: The U.S. Was a Vast Wilderness Sparsely Inhabited by Primitive Peoples

There were four sub-themes under this central theme: "Incomplete Description of People of Color," "No Regard for Previous Indigenous Peoples," "Underrepresented Peoples Represented as Primitive," and "Native Americans Represented Monolithically." It is evident in Figure 2 that two themes were not influential as the other two, but the text and language that goes along with these two sub-themes should not be overlooked.

Figure 2. *The U.S. was a vast wilderness sparsely inhabited by primitive people.*



To start, the sub-theme "Incomplete Description of People of Color" had two clear examples tied to it. The following are both from the *History of U.S. Agriculture Up to the 20th Century* curriculum. The first example reads:

> It is believed that by 5,000 years ago, Mesoamericans had domesticated maize (corn) from a grass plant called teosinte. Mesoamerica roughly encompasses the region from central Mexico south to Belize, Guatemala, El Salvador, Honduras, Nicaragua, and northern Costa Rica (MyCaert, 2015, p. 3).

The statement above is an example of an incomplete description of people of color because the term "Mesoamericans" is such a broad label. Supplemental information, such as where maize was domesticated, is not considered. Wang, Stec, Hey, Lukens, and Doebley (1999) said that "…maize domestication required hundreds of years, and confirm previous evidence that maize was domesticated from Balsas teosinte of southwestern Mexico." It would have been

simple enough to say that the domestication of maize was in the southwestern region of Mexico and to further name the peoples that are credited with this process. This added information gives proper credit and reduces the abstraction a student could make when presented with the term "Mesoamericans."

The second example within this sub-theme also fits under the sub-themes "Underrepresented Peoples Represented as Primitive" in Theme #1, and "Simplification of Contribution" in Theme #4. The excerpt reads: "At least 1,000 years ago, Hawaiians practiced aquaculture, or fish farming" (MyCaert, 2015, p. 3). This sentence is an incomplete description of people of color as well as a simplification of contribution because Hawaiian populations did much more than "fish farming."

Imagine a young child of Hawaiian decent trying to learn about the agricultural contributions of her/his people, and all that child sees is credit for "fish farming." It is incomplete and could have much more information tied to it such as, "How did they do this fish farming? What types of fish did they farm, and why? What other crops types of agriculture did they utilize?" This statement also makes the Hawaiian population appear primitive as if all they knew how to do was raise fish when they additionally had sophisticated terracing and irrigation systems in place for cultivation of the taro or khalo plant.

Moving on, the sub-theme "No Regard for Previous Indigenous Peoples" had fifteen recorded accounts. This example covers across several different sub-themes as well as themes. It covers "No Regard for Previous Indigenous Peoples," "Native Americans Represented Monolithically," and "Potential Data Inaccuracy." It reads:

> Native Americans practiced a form of agriculture in which they would farm a field until yields dropped. Then, they would move on to another area, allowing the soils of the

> previously used field to recover fertility. European explorers and traders noted that the land left fallow appeared abandoned. Also, diseases, such as measles and smallpox, had a devastating effect on Native American populations before European settlers arrived. This left lands somewhat unoccupied. Consequently, European colonists were able to gain a foothold with minimal conflict (MyCaert, 2015, p. 4).

To start, the use of the label "Native Americans" is monolithic because with further research one can most likely figure out exactly which tribes practiced the methods mentioned. The use of "Native Americans" makes it sound like all Native Americans did this when it is most likely that they all did not. With this, the potential data inaccuracy lies in the statement, "Also, diseases, such as measles and smallpox, had a devastating effect on Native American populations before European settlers arrived" (MyCaert, 2015, p. 4).

This shocking statement can be proven false with even the slightest bit of supplemental research. Smallpox explicitly had made its way through South and Central America long before it hit North America, but it was all Europeans that brought the disease. In South and Central America it was the Spaniards, and in North America (Patterson & Runge, 2002) expressed:

> It was not until the French, Dutch, and English established permanent North American settlements that the devastation of Native Americans by smallpox began. Centered on Boston Bay, the first epidemic occurred in 1616 along the Massachusetts coast, eliminating nearly 90% of the Massachusetts tribe of the Algonquin nation.

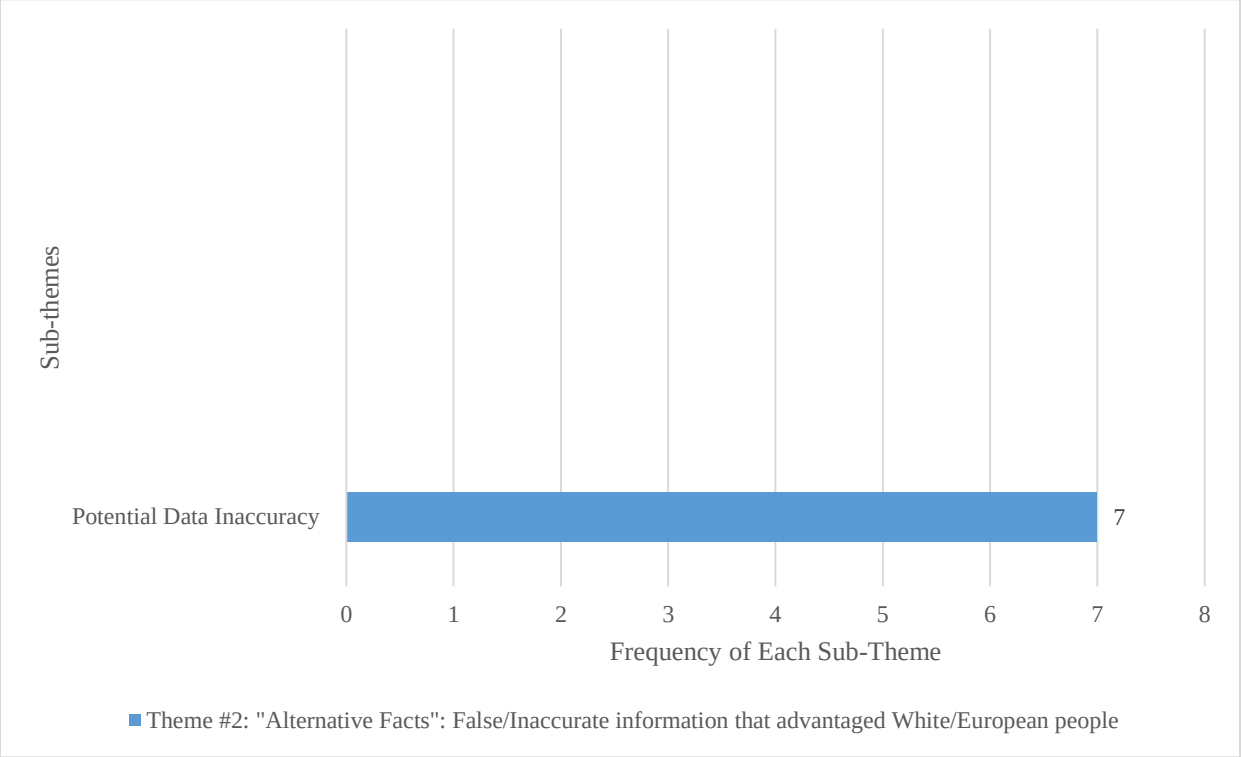
To finish with this example, the statement, "This left lands somewhat unoccupied. Consequently, European colonists were able to gain a foothold with minimal conflict," reflects the sub-theme "No Regard for Previous Indigenous Peoples." The lightness of the language used is not reflective of what happened to Indigenous Peoples. Of course, the land was left

unoccupied, and there was a minimal conflict to gaining it. The populations that lived in these areas were too busy getting killed off by infectious diseases to be able to fight for their land and occupy it.

Theme #2: "Alternative Facts": False/Inaccurate Information that Advantaged White/European People

Throughout these four lessons, there was seven potential data inaccuracy present. The researcher decided to focus on statements that typically dealt with individuals or events that directly impacted populations of people or specific events about inventions.

Figure 3. *"Alternative Facts": False/Inaccurate information that advantaged White/European people.*



One potential data inaccuracy is mentioned in the previous section so that the researcher will refer to one more in this section. The example in use comes from the *History of U.S. Agriculture from the 20th Century to Today* curriculum. This example reads:

> The North American Free Trade Agreement (NAFTA) is a treaty entered into by the United States, Canada, and Mexico with the goal of opening trade between the three nations. It was enacted on January 1, 1994. It is a comprehensive trade agreement that improves virtually all aspects of doing business within North America. NAFTA eliminates tariffs completely and removes many of the non-tariff barriers, such as import licenses, that have helped to exclude U.S. goods from the other two markets, especially Mexico (MyCaert, 2015, p. 5).

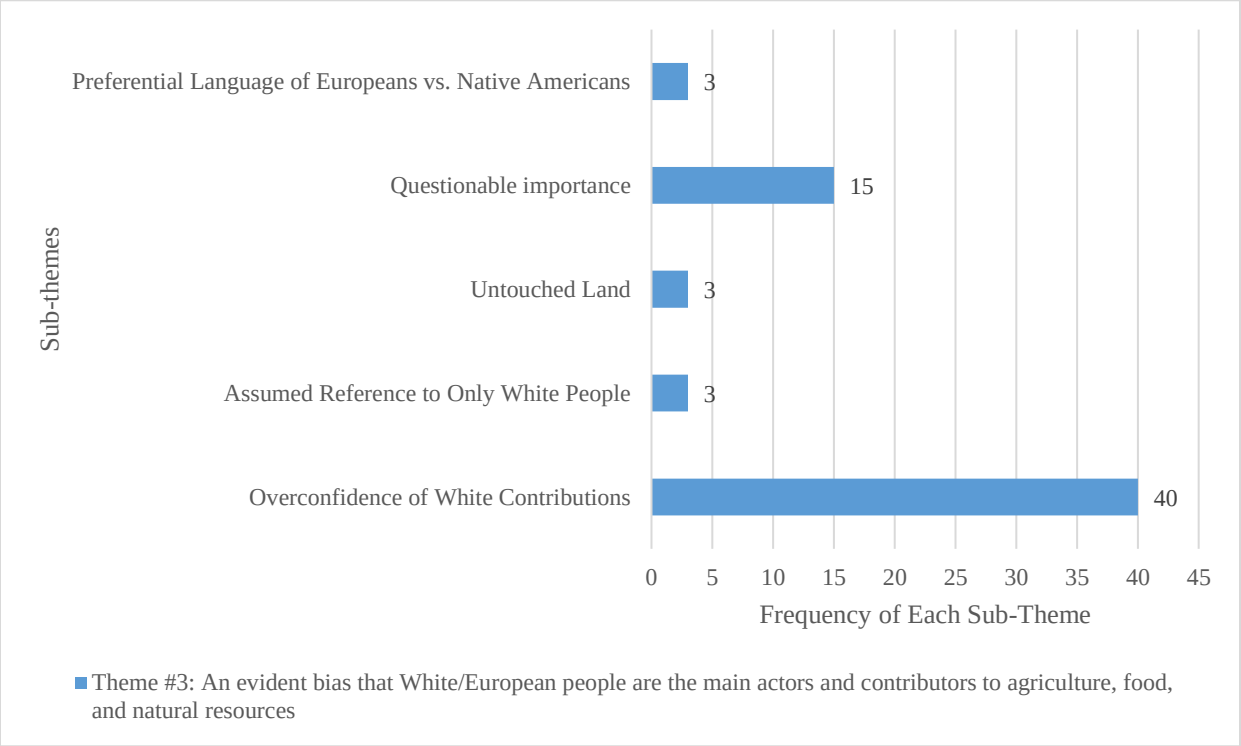
Though NAFTA may have initially been drafted to be positive for Canada, Mexico, and the United States, the last sentence in the statement above is startling.

According to a New York Times opinion piece by Laura Carlsen (2013), Director of the Americas program at the Center for International Policy, "As heavily subsidized U.S. corn and other staples poured into Mexico, producer prices dropped, and small farmers found themselves unable to make a living. Some two million have been forced to leave their farms since Nafta." This statement from Laura Carlsen seems to paint a different picture than what the passage states about excluding U.S. goods from the other two markets, especially Mexico.

Theme #3: An Evident Bias that White/European people are the Leading Actors and Contributors to Agriculture, Food, and Natural Resources

Under this theme, sub-themes were created to correspond with the theme's title. The sub-themes are: "Preferential Language of Europeans vs. Native Americans," "Questionable Importance," "Untouched Land," "Assumed References to Only White People," and "Overconfidence of White Contributions." Examples spanning over several sub-themes will be used to express the reasoning behind the titles.

Figure 4. *An evident bias that White/European people are the leading actors and contributors to agriculture, food, and natural resources.*



First, this example combines the "Assumed Reference to Only White People" sub-theme with the "Overconfidence of White Contributions" sub-theme. The *Natural Resource Conservation and Preservation* curriculum from MyCaert (2014) states, "It wasn't until the late 1800s that people began to see the need for conservation of our natural resources" (p. 4). This example is an assumed reference to only white people because Indigenous Populations had been conserving and preserving natural resources far before Europeans took over their land. This example is also an overconfidence of white contributions because the language used describes that it was only "settlers" that saw the need for conservation.

Moving on, there were fifteen "Questionable Importance" statements. Most of the declarations sorted into this sub-theme had questionable significance because they were European men. Having Europeans would not be a problem if the curriculum was not labeled

History of U.S. Agriculture Up to the 20th Century, and the objective these European men fell under was "Describe agriculture in the United States prior to the 1700s" (MyCaert, 2015, p. 3).

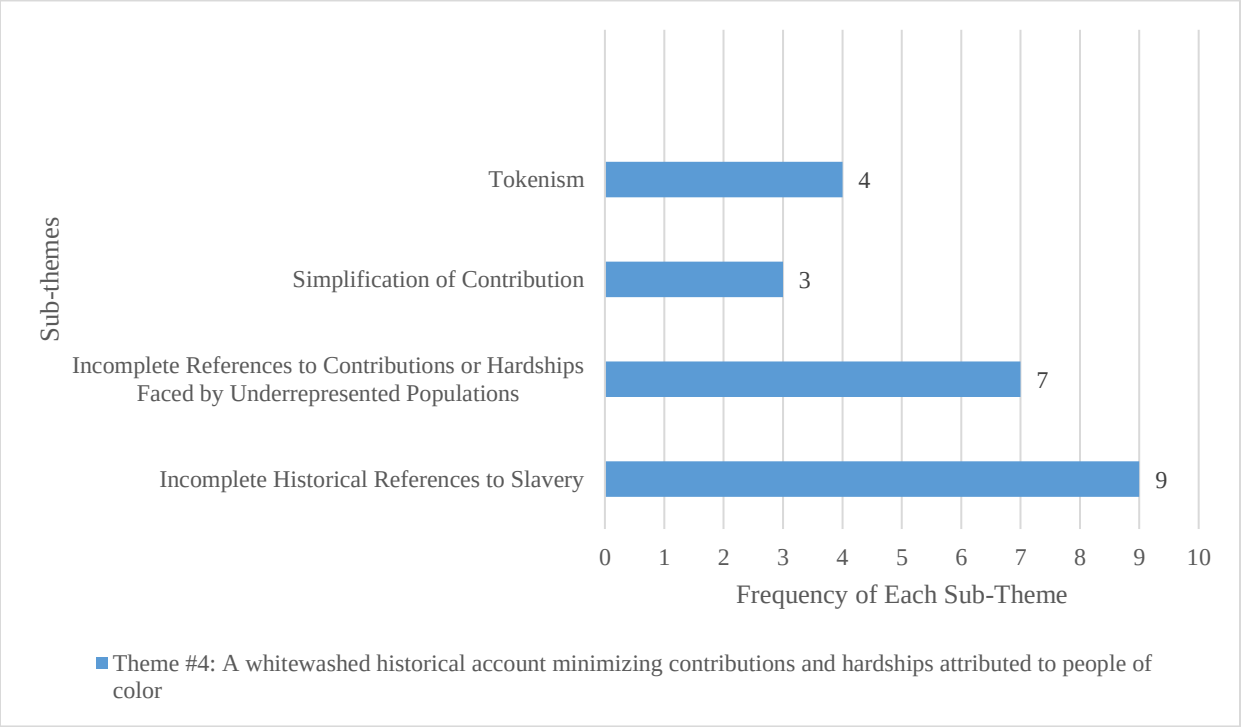
As for the "Preferential Language of Europeans vs. Native Americans" examples dealt with added information that made Europeans appear more influential or preferred over underrepresented populations such as, "By A.D. 1000, maize was produced throughout much of North America and was grown in large plots. Europeans called maize corn, a general term for cereal grains" (MyCaert, 2015, p. 3).

A solid example from the "Untouched Land" sub-theme is, "Yellowstone National Park was established in 1872. This was the first national park to be developed in the world. Its purpose was to preserve the natural resources of the area, including wildlife" (MyCaert, 2014, p. 4). This statement not only makes it sound like colonists found that land completely untouched, but it also disregards any Indigenous peoples that may have been initially killed or torn from that land.

Theme #4: A Witewashed Historical Account Minimizing Contributions and Hardships Attributed to People of Color

Under this theme, sub-themes were created to correspond with the theme's title. The sub-themes are: "Tokenism," "Simplification of Contribution," "Incomplete References to Contributions or Hardships Faced by Underrepresented Populations," and "Incomplete Historical References to Slavery." Examples spanning over several sub-themes will be used to express the reasoning behind the titles.

Figure 5. *A whitewashed historical account minimizing contributions and hardships attributed to people of color.*



It is important to point out that slavery was not mentioned anywhere in this curriculum other than in one brief statement. The sentence lies in the *History of U.S. Agriculture Up to the 20th Century* lesson which states, "Grain and sweet sorghum, melons, okra, and peanuts were introduced to the New World as a result of the slave trade between Africa and the colonies" (MyCaert, 2015, p. 4). This example was one from the "Incomplete Historical References to Slavery." It was the only mention of slavery in this curriculum, and the premise behind the statement wasn't even remotely about slavery, but about newly introduced crops from the slave trade.

For the "Tokenism" sub-theme there was only a frequency of four mentions because there were only two specific underrepresented individuals represented in four pieces of curriculum. These two people were George Washington Carver and Rachel Carson. Previous mentions of the "Simplification of Contribution" sub-theme examples are above.

There were several good examples for the "Incomplete References to Contributions or Hardships Faced by Underrepresented Populations" sub-theme, but one was blatantly more apparent in disregarding the contributions of an underrepresented population. In the *Improving Agricultural Plants and Animals* lesson by MyCaert (2013) states, "1953-The structure of DNA is described by James Watson and Francis Crick" (p. 9).

A simple, quick Google search will pull up numerous amounts of information regarding the description of DNA, and many of them at least mention the "controversy" regarding Rosalind Franklin.

Brenda Maddox (2003) explains in her article *The double helix and the 'wronged heroine'*:

> In 1962, James Watson, Francis Crick, and Maurice Wilkins received the Nobel Prize for the discovery of the structure of DNA. Notably absent from the podium was Rosalind Franklin, whose X-ray photographs of DNA contributed directly to the discovery of the double helix. Franklin's premature death, combined with misogynist treatment by the male scientific establishment, cast her as a feminist icon. This myth overshadowed her intellectual strength and independence both as a scientist and as an individual (p. 407).

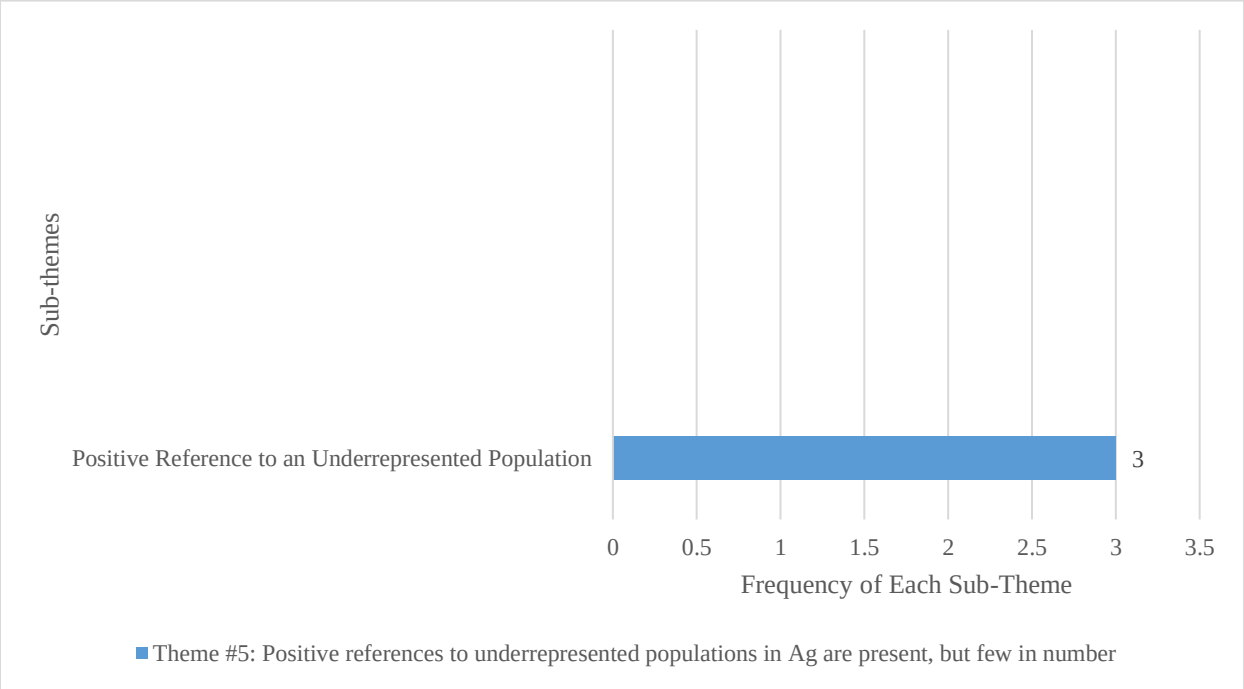
Although it seems there are many pieces of supplemental research to back Rosalind Franklin's contribution to science, the writers/collaborators of this curriculum could have at least mentioned Franklin even if they believed it was a "controversy."

Theme #5: Positive References to Underrepresented Populations in Ag are Present, but Few in Number

There were three positive references to underrepresented populations out of a total 194. Though these examples are a category under positive references, they still carried a negative

connotation because every positive reference is a connection to a person in the "Tokenism" sub-theme. Out of the three examples collected, two were about George Washington Carver, and one was about Rachel Carson.

Figure 6. *Positive references to underrepresented populations in Ag are present, but few in number.*



The George Washington Carver examples included, "In the United States, George Washington Carver promoted his science of crop rotation to the farmers and saved the farming resources of the South" (MyCaert, 2015, p. 5). And, "From 1900 to 1910, George Washington Carver served as director of agricultural research at Tuskegee Institute. His research found new uses for peanuts, sweet potatoes, and soybeans, thus helping to diversify agriculture, particularly in the South" (MyCaert, 2015, p. 4).

There is an oddity that stems from the first statement referencing George Washington Carver. The first statement was an addition on a line behind Charles Townshend which talked about this (European man's) crop rotations. This addition of George Washington Carver is odd on two different levels. One, the fact that George Washington Carver did not even deserve his

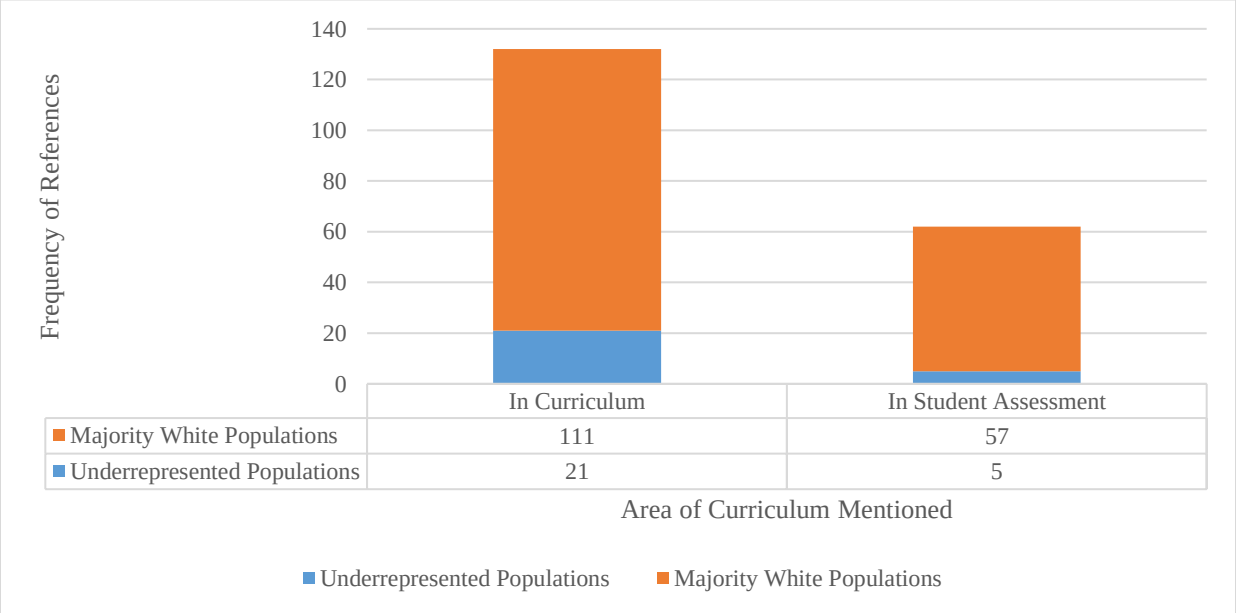
own line is disgruntling, but two, why was he even mentioned in this time frame? George Washington Carver was not even born until 1874, so this reference to him in the *History of U.S. Agriculture Up to the 20th Century* curriculum seems out of place (Biography.com, 2016).

As for the one mention of Rachel Carson in the *Natural Resource Conservation and Preservation* curriculum by MyCaert (2014) the example reads, "Rachel Carson (1907–1964) was responsible for making people aware of the problems caused by pesticides. She was a biologist and a writer who authored a book titled Silent Spring" (p. 5). This reference to Rachel Carson is not horrible, and it does outline some of her main contributions, but she had many more contributions to science that the curriculum should look at expanding.

Objective 3: Main Curriculum vs. Student Assessments

This section aims to answer question three which pertains to the frequency of mentions of underrepresented populations versus majority white populations in the main curriculum versus the student assessments.

Figure 7. *Frequency of references in the main curriculum vs. student assessments for Underrepresented populations vs. majority White populations.*



The records here show that 15.9%, or 21 out of the total 132 references of populations or individuals in the primary curriculum was of underrepresented populations. This number drastically compares to the 84.1%, or 111 out of the total 132 references of populations or individuals in the main curriculum being from the majority white population.

The student assessment shows significantly fewer references of both populations, most likely because the assessments were much shorter than the main curriculum. As it shows, only five out of the total sixty-two references were of people or individuals from an underrepresented population, whereas the majority white population had a representative fifty-seven out of sixty-two references.

From these figures, one can infer that the writers of this curriculum do not view underrepresented populations as important influencers throughout U.S. Agriculture History. The sparse references in the student assessments makes it seem as if those from underrepresented populations are minimally important enough to mention in the curriculum, but not important enough that students are responsible for committing information about them to memory as indicated by a lack of representation in assessments.

CHAPTER V: DISCUSSION

In performing this content analysis on four pieces of Agriculture Education curriculum that had heavy emphasis on historical content, we found that the History of U.S. Agriculture, as depicted in these lessons, was similar to that of general U.S. History. Just like most U.S. History textbooks have a majority white presence, so did this curriculum. Out of the 194 references to individuals or groups, 168 of them were of the white majority while only 26 belonged to those of underrepresented populations. The same theme occurred in the assessments too. Out of a total of 62 references, underrepresented populations only made up 5 of those.

These numbers are quite startling considering this content analysis was only over four pieces of curriculum. Along with having many more references to the majority population, the curriculum also failed to lend diverse viewpoints regarding contributions made and hardships faced by individuals or specific groups, such as Native American tribes, throughout the History of U.S. Agriculture. The use of monolithic language in regards to indigenous people, the lack of mention to slavery, and the primitive language used to describe Hawaiians as well as Native Americans does not make the curriculum appear any less Eurocentric.

Not to be overlooked, we must mention that there were indeed positive references to underrepresented populations. Though these were present they were few in number, and overshadowed by the lack of reference to or the use of language that accompanied many excerpts regarding underrepresented populations. It is interesting that there were so few positive references regarding individuals or groups belonging to underrepresented population, but an overt overconfidence of white contributions that paid homage to British Agriculturalists. The mention of many white, male agriculturalist from Britain was somewhat confusing considering the objectives for the lessons clearly stated that they were interested in investigating agricultural

developments and events in the United States. These discussion points aid in the unearthing of several implications within the curriculum.

Implications

This study had several significant implications regarding the History of U.S. Agriculture within Agriculture Education curriculum. For one, there is still a very prevalent Eurocentric narrative. This narrative shapes the content and methods that Ag educators teach today, which seemingly implies that those in the agriculture field do not see the need to diversify the curriculum. Along with this continuously Eurocentric narrative, comes the shadowing of major contributions and achievements made by those in underrepresented populations.

When people of underrepresented populations are not given credit for advancements that they have achieved, hardships they have faced, or the contributions they have put forth, it implies that what they have done is less important than what their white counterparts had done. Even worse, when credit is given to someone in the majority population for something that was done by someone in an underrepresented population, like what was represented in the analyzed curriculum, it gives off the impression that underrepresented people do not own their experiences, thoughts, or ideas.

To wrap up this section, there was an evident lack of supplemental research put forth in this Agriculture Education curriculum. The lack of research on many of the historical topics, including who and where to give credit to many inventions, implies that the curriculum company may hold a bias in favor of the majority population throughout the U.S. History of Ag. If not taken into careful consideration, many underrepresented individuals may see or mistake this absence of effort as fuel that keeps the racialized History of U.S. Agriculture burning in Ag Education.

Limitations

There were two overarching limitations to this study. The first is that we focused substantially on individuals and groups of people rather than 'timeline facts'. With this, we did investigate inventions and events that were tied to specific individuals and groups of people, but two out of the four lessons analyzed had heavy emphasis on facts and events tied to a date instead of specific individuals. With this, there could be more data inaccuracies hidden behind an obscure timeline of events.

The second limitation is in reference to one aspect of the curriculum's supplemental resources. Due to time constraints, photos were not analyzed. With this being said, we did get a cursory glance at one particular photo in the *History of U.S. Agriculture Up to the 20th Century* lesson by MyCaert (2015) that showed individuals of a non-specific Native American tribe sitting on the ground while European colonists served them food. This photo seems to imply that the Native Americans were primitive and could not take care of themselves, therefore the colonists did. This most likely was not the case, but since no other photographs were analyzed, it could not be added to the findings.

Recommendations

The highest recommendation that we can make is for the curriculum company to engage in finding more supplemental research to base their curriculum. The first part of supplemental research will address the monolithic cultural ideal of Indigenous peoples wherein examinations are conducted regarding specific groups or tribes Native Americans belong to when implicating agricultural practices, contributions, or achievements accomplished. Adding in specific names of tribes not only gives a level of added detail, it helps rid the curriculum of monolithic language and gives credit to the tribes referenced.

To continue, we also suggest doing more research on individuals from underrepresented populations that hold a higher significance in U.S. Agriculture History than the British agriculturalists and those with questionable importance. We believe that a better use for the curriculum would be to question whether certain individuals from the majority populations really had as important inventions as they we are led onto believe. A prime example is John Kay who was credited with the invention of the flying shuttle which ultimately "…allowed weavers to produce wider pieces of cloth faster" (MyCaert, 2015, p. 5). This invention does not seem to hold as much merit as others in the curriculum during that time-period. We suggest conducting more supplemental research and compiling a list of individuals within underrepresented populations to insert into the curriculum and the assessments to make each part more diverse and inclusive.

Next, we recommend fixing the data inaccuracies outlined in this study as well as investigating the rest of the 'timeline facts' presented to make absolutely certain that they are historically correct. Obtaining more research on these 'timeline facts' may aid in the discovery of the individual or group that happened to contribute to these specific moments in U.S. Agricultural History, thus possibly giving underrepresented populations more representation.

Lastly, we recommend adding slavery into the curriculum. It is peculiar that slave labor was not mentioned at all in Agriculture curriculum that has historical contexts. Up until the mid-1860s slaves were the main laborers, so the "labor hours" mentioned in the curriculum during this time period with no regard to who was actually completing them is demoralizing to those that had to endure pain, suffering, and ownership by another human being to do those hours. Slavery was a very large and important part of the U.S. Agricultural narrative, therefore these individuals deserve to be represented.

Conclusion

To conclude, this content analysis was conducted to determine how U.S. Agricultural History, as presented in Ag Education curriculum, aligns with general U.S. History by gauging how diverse and inclusive it is. After deep analysis of the curriculum pertaining to individuals and groups of people, we can conclude that it does align significantly. There is an overarching need in the History of U.S. Agriculture narrative to find and add in more examples of individuals from underrepresented populations to help Ag Education become more relatable and comfortable for youth that may identify within these underrepresented populations. If Ag Ed curriculum can be molded to be more inclusive and have high levels of diversity noted, then the Agriculture field may have a better chance at also becoming more of an interest for diverse individuals.

The addition of supplemental narratives can help widen the perspective of U.S. Ag History, better allowing educators to teach a more inclusive and encompassing curriculum. A larger content analysis should be conducted across multiple Ag Ed curriculums to improve the use of multiple diverse narratives rather than a Eurocentric narrative. It would be in the best interest of these Ag Ed curriculum companies to commit to this more extensive content analysis in efforts to build a cohesive, all-encompassing, and inclusive standard of representation for underrepresented populations throughout the History of U.S. Agriculture.

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