

Visual Ethnography Assessment of Departments of Animal Sciences at Three Land Grant Universities: Who is Welcome?

Shannon Archibeque-Engle, Colorado State University - Fort Collins

Abstract

Physical artifacts present in educational settings make visible the values of the institution. These messages signal the institution's desire for a culturally inclusive and supportive environment. Given the land grant mission of inclusive education, the labor heritage of agriculture, and the saliency of stereotype threat in creating an inclusive learning environment, critically assessing the equity climate of departments of animal sciences in land grant universities is overdue. This study utilizes *Banning et al.'s* 2008 taxonomy based on visual ethnography methodology to interpret the equity climate of three departments of animal sciences at land grant institutions to answer the critical question: who is welcome? The systematic coding and thematic analysis reveal exclusive learning environments clearly communicated by the physical artifacts present.

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Introduction

My agricultural education did not come from a land grant institution. My agricultural education came instead from the land, specifically the hay fields, fence lines, pastures, and animal pens in southwestern Colorado. As a Latina, Chicana feminist, former farmworker, land grant educated student, and educator who has been embedded in agricultural higher education for over nine years, my lens provides informative insight into the physical artifacts presented in departments of animal sciences at Predominantly White Institutions (Corbin Dwyer & Buckle, 2009; Innes, 2009). While it is easy to find people like me working in animal agriculture, are these same people welcome to study the production of food and fiber? Do they feel invited to become educated agriculturalists? This study seeks to understand the inclusive nature of the lived learning environment of departments of animal sciences at three major land grant universities.

Many of us have experienced walking into an environment and immediately feeling a sense of belonging or welcome. In contrast, many of us have also experienced walking into an environment and immediately feeling that we were unwelcome and did not belong (Tienda, 2013; Chang, 2013). In our educational institutions, physical artifacts, the human created cultural objects and representations, communicate important messages about our educational climate and values (Banning, 1992, 1997; Banning & Bartels, 1997; Banning, Middleton & Deniston, 2008). Bulletin boards, signage, decorations, and other artifacts serve as communicators of cultural values (Pink, 2007; Van Leeuwen & Jewitt, 2001; Johnson, 1980). These physical artifacts, then, may be viewed as powerful nonverbal communicators of climate, especially equity climate. These value representations tell current and prospective students, as well as faculty and staff, who and what are valued. The communication of cultural expectations shapes the learning environment; these expectations support and/or constrain learning (Nieto & Bode, 2012; Jennings, Jewett, Laman, Souto-Manning, & Wilson, eds., 2010; Jennings & Mills, 2009; Darder, Baltodano & Torres, eds., 2009). It is important, then, to assess what physical artifacts are communicating in educational settings. This study draws upon the visual ethnography work of James H. Banning and others to answer the question: who is welcome in departments of animal sciences at three major land grant institutions? Further, recommendations for higher education related to physical artifacts, such as art, signs, graffiti, or architecture, will be presented.

Latinas/os, United States Agriculture, and Higher Education

From the United States Department of Agriculture to National Geographic magazine there are calls for more educated agriculturalists. The need for people trained to produce, secure, research, or inspect our food supply is real. Latinas/os have long been instrumental in animal agriculture in the United States. If institutions of agricultural education are to address our nation's need for educated animal scientists, Latinas/os must be included as part of the solution. Unfortunately, Latinas/os are overrepresented in the agricultural labor force and underrepresented in agricultural higher education (Jones & Larke, 2001). Instead of only relying on Latinas/os as laborers, production agriculture should recruit this experienced resource into the educated professional ranks. Once these students are recruited and arrive on campus, the question becomes, do they feel welcome to study animal sciences?

This research project connects three academic concepts: the land grant mission, which guides many institutions of agricultural higher education, agricultural heritage and ethnicity in the United States, and the institutionalization of "stereotype threat". These three concepts provide a basis to utilize visual ethnography as a method to assess the lived learning environment of departments of animal sciences at three land grant universities. These underpinning concepts are briefly explained here.

Latinas/os

Hispanic is a term used to identify a people of mixed Spanish and Native American, mestizo origins who have lived for several centuries in the southwestern United States; the use of the term Hispanic to refer to this group of people was socially solidified by the United States government's 1971 decision to create a new ethnic category on its census form (Marable, 2000). Due to the political biases associated with the label Hispanic, Latina/o, a constructed ethnically descriptive term, is used in this work to include women and men who are Hispanic or who are more recent emigrants from Latin American countries (Espino, Leal, & Meier, 2008). This work touches on the complexity of Latina/o identity by referencing Mexicanas/os and Chicanas/os within Latinas/os. Mexicana/o includes Mexican Americans, individuals of Mexican heritage who live primarily in the United States, and American Mexicans, individuals from the United States who live primarily in Mexico (Anzaldúa, 2012; Alaniz & Cornish, 2008; Meier & Ribera, 1993). Chicana/o refers to people of mestizo origin who grew up in the United States, often the Southwestern United States. Chicana/o is an identity related to the Chicana/o Movement during the Civil Rights Era and as such has political connotations and a stronger tie

to working class intersectionality (Anzaldúa, 2012; Noriega & Sandoval, 2011; Alaniz & Cornish, 2008). In this work, Latina/o will be used as the umbrella term to capture the complexity of this ethnic identity.

Agricultural Heritage

“The main thing about the labor supply is to muelize (sic) it....The supreme qualities of the laborer are that he shall work cheap and hard, eat little and drink nothing, belong to no union, have no ambitions and present no human problems. Particularly, he should appear from nowhere, when we need him, put up with what accommodations he finds, provide his own food, and then disappear...until the busy season comes around again. Some sort of human mule with the hibernating qualities of the bear and the fastidious gastronomic tastes of the goat, would be ideal provided he is cheap enough.” (Rowell in Street, 2004, p.iii)

In order to understand the current learning environment in agricultural higher education and animal sciences in particular, it is important to understand the historical role of Latinas/os and other immigrant and ethnic groups in United States agriculture. Native Americans, Africans to be enslaved, as well as emigrants from Japan, China, and German Russia, and others have all provided agricultural labor within the United States (Street, 2004; Donato, 2003). As the above quote illustrates, land owners and business owners benefitted greatly from a cheap and reliable labor force. Latinas/os, especially Mexicanas/os, have historically been and continue to be a significant and valuable part of the agricultural landscape, including animal agriculture, in the United States. In fact, Latina/o labor has enabled agriculture within the United States for well over a century. Some of this labor support was documented through a series of governmental agreements called the Bracero programs, though much of this labor supply was provided by people without governmental documentation (Alaniz & Cornish, 2008; Meier & Ribera, 1993). This systematic reliance on Latina/o agricultural labor has yielded a labor force that continues to subsidize agriculture in the United States into the 21st century.

The United States Department of Agriculture and others have identified the need for educated agriculturalists (“Education,” n.d.). The Food and Agricultural Education Information System published data showing that in 2008, 4.5% of the total agricultural undergraduate student enrollment was Hispanic (“Using FAEIS to Explore Gender and Race Data,” 2009). There are not enough people graduating with degrees, both undergraduate and graduate, in agricultural fields, especially those with any real agricultural experience (Galt, Clark, & Parr,

2012; Jones & Larke, 2001). It is a foundational assumption of this research project that those who have been a part of agricultural labor are a critical answer to the societal need for educated agriculturalists; there is space for all, including Latinas/os and other ethnic groups, in agricultural education and not just in the labor pool. The issue then becomes the learning environment that these students encounter when they arrive at a land grant university to study.

Land Grant Mission

In 2011, John Slaughter called those in higher education to anger and action quoting higher-education leaders convened by the Carnegie Corporation of New York, “American colleges and universities have been inexcusably deficient in providing fair educational opportunities to our poorest students” (Slaughter, 2009, p. A68). Given the contemporary interpretation of the land grant mission, which is one of access, this indictment calls educators of land grant institutions to action and critical assessment of the current educational environments at said institutions.

In 1862, President Abraham Lincoln signed The Morrill Act creating the land grant university system in the United States (Fogel, 2012). As Justin Smith Morrill stated in 1858, the Act was originally designed to create university systems “to teach men the way to feed, clothe, and enlighten the great brotherhood of man” (“Celebrating 150 Years of Public Higher Education: The Morrill Land-Grant Act at 150,” 2012). The Morrill Act ushered in the era of access to higher education for more than society’s elite. It also promoted the notion that education should be practical as well as theoretical. The land grant universities were focused on agriculture and mechanics, a heritage that is still celebrated by these universities. The contemporary interpretation of the Morrill Act as espoused by the Association of Public and Land-Grant Universities is the land grant mission, i.e. providing access to higher education for a broad population of students, where ideally students with the talent and desire for higher education have access to higher education (“Celebrating 150 Years of Public Higher Education: The Morrill Land-Grant Act at 150,” 2012; Fogel, 2012). Land grant universities are designed by their very mission to be inclusive education centers. Colleges of Agriculture and the study of livestock and animal husbandry have been foundational academic disciplines within the land grant mission since the creation of these universities (Fogel, 2012).

Stereotype Threat and the Learning Environment

The achievement gap is well documented and delineates the academic underperformance of marginalized groups, who carry the burden of negative stereotypes regarding their academic ability. The quantified achievement gap, which is the numerical difference between the rate of graduation with a bachelor's degree for White students compared to that of non-White students, differs depending on the year of the study and the population investigated, although the pattern is consistent in that women underperform relative to men in the physical sciences and in math, and both African Americans and Latinas/os underperform compared to European Americans and Asian Americans in overall academic achievement (Aronson, Quinn, & Spencer, 1998; Fulwood III, 2012; Romo & Falbo, 1995; Slaughter, 2009; Telles & Ortiz, 2008; Valencia, 2002).

One of the explanations for this underperformance has been identified as "stereotype threat" (Steele, Spencer, & Aronson, 2002; Aronson *et al.*, 1998). Stereotype threat has been defined "as the discomfort targets feel when they are at risk of fulfilling a negative stereotype about their group; the apprehension that they could behave in such a way as to confirm the stereotype" (Aronson *et al.*, 1998, p. 85). Aronson, Steele, and others contend that stereotype threat "undermines academic achievement both by interfering with performance on mental tasks, and, over time, by prompting students to protect their self-esteem by disengaging from the threatened domain" (Aronson *et al.*, 1998, p. 85). One of the critical activating factors in triggering stereotype threat is when people think they are in an environment where they will be treated stereotypically (Steele *et al.*, 2002, Aronson *et al.*, 1998). It is important, then, to assess what the university's physical artifacts are communicating in educational settings. Are the educational environments playing a role in increasing or decreasing stereotype threat?

Visual Ethnography as a Method to Assess Equity Climate

If a picture is worth a thousand words, photographs of our educational spaces speak volumes about our institutional values. Visual ethnography is an anthropological specialization that studies culture through photographic methods, including the use of the still camera (Pink, 2007; Rose, 2012; Seymore-Smith, 1986 van Leeuwen & Jewitt, 2001). The photograph within research design has also been described as an inductive technique to capture a cultural slice of reality (Collier & Collier, 1986). Banning (1997) has utilized visual ethnography in multiple higher education settings to assess values, ethics and climate. He has harnessed the power of this methodology to assess campus ecology for messages of sexism (Banning, 1992),

messages about Hispanic/Latino culture (Banning & Luna, 1992), homophobia (Banning, 1995), and messages about gender (Banning, Sexton, Most, & Maier, 2007). His work has established multiple taxonomies with which to analyze the photograph (Banning, 1997; Banning & Bartels, 1997; Banning *et al.*, 2008). While it is understood that people do not fit into boxes and intersectionality is foundational to understanding lived experiences, utilizing Banning, Sexton and Deniston's taxonomy allows for rigorous systematic examination of the physical artifacts that are encountered in educational settings (2008). Further, stereotype threat and LatCrit, an epistemology that seeks to expose and transform the master narrative, provide a theoretical framework within this taxonomy with which to make meaning of the data.

The present study utilizes the most recent taxonomy published to assess equity climate (Banning, Sexton & Deniston, 2008). Messages depicted in photographs are analyzed in this taxonomy to assess the equity messages conveyed. This framework is composed of four dimensions: the type of physical artifact sending the message, the equity parameters relevant to groups within the organization, the content of the message, and the equity approach level of the message. First, the types of physical artifacts within educational settings take a variety of forms but usually fall into four categories: art, signs, graffiti, and architecture. Second, in this taxonomy, physical artifacts found in educational settings are interpreted from a number of equity parameters including gender, race, ethnicity, religion, sexual orientation, and physical ability differences. Banning, Sexton and Deniston call the last equity parameter physical while in this analysis it will be termed physical (access) to more clearly define what is intended by this equity parameter (2008). Third, this taxonomy allows for assessment of the content of the message into four categories, though many messages relate to more than one category. For the third level of assessment regarding equity climate the relevant categories are: messages of belonging, messages of safety, messages of equality, and messages regarding roles. Finally, the taxonomy labels four different approaches in regard to how the artifact addresses issues of equity. These categories are the negative approach, the null approach (Betz, 1989; Freeman, 1979), the contributions/additive approach (Banks, 1999), and the transformational/social action approach (Banks 1999). These four levels of analysis are summarized in Table 1.

Theoretical Framework

"Epistemology...can be...defined as a 'system of knowing' that is linked to worldviews based on the conditions under which people live and learn" (Delgado Bernal, 2002, p 106). A number of education scholars have established the imperative for critical raced and raced-

gendered epistemologies in research (Crenshaw, 2011; Crenshaw, Gotanda, Peller, & Thomas, 1995; Delgado Bernal, 2012, 2002; Dillard, 2000; Ladson-Billings, 2000, 1995). This study adds to this growing body of knowledge within the academy founded on Latina/o Critical Theory (LatCrit). LatCrit has theoretical roots in Critical Race Theory (Mills, 1997; Valdes, Culp, & Harris, 2002). As such this research is concerned with privilege and oppression and is emancipatory in its inquiry aims (Freire, 1993). In the context of agriculture in the United States and this article, LatCrit seeks to expose and transform the master narrative in which Latinas/os are confined to stoop labor while White land owners reap the benefit of that labor (Anzaldúa, 2012; Crenshaw *et al.*, 1995; Creswell, 2013; Darder *et al.*, 2009; Delgado Bernal, 2012, 2002).

My positionality and the agricultural heritage of Latina/o labor places this study comfortably within a LatCrit theoretical framework. This study utilizes LatCrit to understand the systems encountered by students within higher education (Marvin & Dixson, 2013). Based on this theoretical framework, my positionality informs the research. I am a Latina researcher with a Mexican American upbringing that most closely identifies as a Chicana feminist because of my politics and working class and agricultural roots. Combined, this standpoint allows for analysis of physical artifacts in departments of animal sciences from the perspective of one who has labored in agricultural fields but has never owned one.

Conceptual Framework

Physical artifacts present in educational settings make visible the values of the institution. These messages signal the institution's desire for a culturally inclusive and supportive environment. Further, they signal who is welcome. Given the land grant mission of inclusive education, the heritage of agriculture, especially its relationship with Latina/o labor, and the saliency of stereotype threat in creating an inclusive learning environment, critically assessing the equity climate of departments of animal sciences in land grant universities is overdue. The purpose of this study is to utilize *Banning, Sexton and Deniston's* taxonomy of visual ethnography methodology to interpret the equity climate of three departments of animal sciences at land grant institutions to answer three overarching research questions:

1. In terms of equity climate, what are the messages being communicated by the physical artifacts in three departments of animal sciences?
2. What are the messages regarding difference to dominant culture in terms of gender, race, ethnicity, religion, sexual orientation, and physical ability?
3. Are these three departments of animal sciences inclusive and welcoming?

Method

Participants

After requesting and receiving permission from administrators at the respective institutions, I visited three departments of animal sciences at land grant institutions in the Rocky Mountain region. For the purposes of this study, these institutions will be referred to be the pseudonyms State University, University of State, and State. The visits to State University and University of State occurred in the summer semester of 2012. The visit to State occurred in the summer semester of 2013. State University is located in a state that is 81.3% White and 20.7% Latina/o; University of State is the land grant institution in a state that is 73.0% White and 29.6% Latina/o; and State is located in a state that is 90.7% White and 8.9% Latina/o (2010 United States Census data). State University's undergraduate population is 51% female and 84.6% White; University of State has an undergraduate population that is 52.3% female and 62.4% White; and State's undergraduate population is 48% female and 77.1% White (institutional enrollment reports). State University's department of animal sciences was to begin a major remodeling project within six months of the visit to State University. Examples of architecture such as access points, stairs, curb cuts and the like are to be rectified in the remodel of the building; thus State University did not have any physical artifacts coded as architecture.

Data Collection

Photographic images were taken with a still camera at visits to the three departments of animal sciences. A total of 127 images were collected for analysis from the three institutions. To triangulate the analysis another five images were collected at the 2012 summer conference of the American Society of Animal Science and another 41 images were collected from State's College of Agriculture. To further triangulate and add depth to the investigation and the equity assessment, the websites from the three institutions were reviewed for negative case analysis (Merriam, 2002; Banning *et al.*, 2007).

Data Analysis

Malcolm Collier's four stage model for analysis in visual anthropology was followed in the analysis of this visual ethnography (Collier in van Leeuwen & Jewitt, eds., 2001). For the first stage, each image was printed at 8.5" x 11" size and displayed *en masse*. The data was observed and patterns and emerging themes were noted in a research memo. During the second stage of analysis, an inventory of all of the images was created; the inventory was

designed around the three institutions as well as the two triangulation image collections. For the third stage of the analysis, all images were coded with the *a priori* codes provided by the Banning, Sexton and Deniston's taxonomy. The images were coded first by the type of physical artifact represented in the image, namely art, signs, graffiti, or architecture. Secondly, the images were coded by equity parameter, specifically gender, race, ethnicity, religion, sexual orientation, and physical (access). Thirdly, images were coded based on message content: that is belonging, safety, equality, and roles. Finally, the images were coded based on equity approach namely negative, null, contributions/additive, and transformational. Code counts were tabulated and percentages for each code were calculated. Collier's fourth stage calls for returning to the complete image record, what Braun and Clarke (2006) call data corpus. Thematic analysis, guided by Braun and Clarke, was then conducted to assess the images in a hermeneutic process that allowed for themes to emerge from the data corpus while informed by individual images, individual image codes, and the coding tables.

Trustworthiness Criteria

The trustworthiness of this project will be documented by intentionally describing the credibility, dependability, transferability, and confirmability of the investigation based on the recommendations of Lincoln and Guba (1986). Research memos and triangulation through the images from the 2012 American Society of Animal Science conference, the images collected from State's College of Agriculture, and the negative case analysis utilizing each department's website support the trustworthiness of this study. Collecting images from three separate land grant universities supports the claim of credibility in that the visual ethnography is not limited to one department of animal sciences. Given the research questions for this study, visual ethnography is the appropriate research method to assess the physical artifacts present in the animal sciences learning environments; this provides dependability for the project. Transferability of this project is limited to departments of animal sciences at land grant universities; the decision remains the responsibility of researchers seeking to transfer these findings. Lincoln and Guba define confirmability or neutrality through questioning how one can establish the degree to which the findings of a study are determined by the subjects and conditions of the study and not be the biases, motivations, interests, or perspectives of the researcher (Lincoln & Guba, 1986). Stating my positionality as a researcher, situating the research within a Critical theoretical framework, actively engaging in reflexivity, and documenting my subjectivity through research memos support a claim of confirmability (Rose,

2012; Glesne, 2011; Lincoln & Guba, 1986). While not included in this study, involving a second researcher would enhance the confirmability of this study.

Results

In the images of the three departments of animal sciences, three of the four codes for type of physical artifact were found. Of the State University images, 64.7% were coded as art and 35.3% were coded as signs. Of the University of State images, 22.2% were coded as art, 66.7% were coded as signs, and 11.1% were coded as architecture. Of the State images, 48.9% were coded as art, 40.8% were coded as signs, and 15.3% were coded as architecture. No images in this data set were coded for graffiti. These calculations are represented in Table 2.

The coding percentages found at State University for equity parameters, message content, and equity approach are depicted in Table 3. The coding percentages found at University of State for equity parameters, message content, and equity approach are depicted in Table 4. The coding percentages found at State for equity parameters, message content, and equity approach are depicted in Table 5. Dimension 3, Message Content, and Dimension 4, Equity Approach were coded utilizing a LatCrit and stereotype threat informed lens. In summary, message content was coded 727 times across the three institutions, 62.2% of those were coded for belonging, 2.6% were coded for safety, 19.4% were coded for equality, and 15.8% were coded for roles. Equity approach was coded 487 times across the three institutions, 16.8% were coded negative, 69.6% were coded null, 13.6% were coded additive/contributions, and none were coded transformational. To make a more generalized comparison in the equity approach across the three institutions, the negative and null codes were summed to achieve an *exclusive* sum total, 86.4%, while the additive/contributions and transformational codes were summed to achieve an *inclusive* sum total, 13.6% (Banks, 1999).

The thematic analysis indicates two themes: inclusive and exclusive with three sub-themes situated within the exclusive theme: hegemony, patriarchy, and disengaged. The majority of the images fall into the thematic category of exclusive given that 86.4% of the images were coded as negative or null. A small sample of the images categorized as exclusive are shown in Figures 1-5.

Figure 1 is one wall of a conference room at State University. The opposite wall in the conference room has a similar portrait display. These portraits are 24" x 18" and no description

of who these portraits depict is provided. In entirety these walls clearly state that European American men succeed in animal sciences; they further indicate superiority and dominance (Freeman, 1979). Images such as this one supported the development of the exclusive sub-theme, patriarchy. Figure 2 is a poster on a faculty member's door on the main level at State University. A picture of a quintessential American cowboy is represented in the poster with a caption that reads, "There were a helluva lot of things they didn't tell me when I hired on with this outfit." This image holds up the American cowboy as the ideal in animal sciences (Johnson, 2006; Banks, 1999). Images such as these supported the development of the exclusive sub-theme, hegemony.

Figure 3 is an image of a piece of art that stands over six feet tall in State's entrance. It depicts a stereotypical battle scene with the cowboy being chased by the savage Indians. Figure 3 is another example of an image within the exclusive theme and hegemony sub-theme. Figure 4 shows an image just within the entrance doors in the department of animal sciences at University of State. It is the first physical artifact that one encounters when entering the building. It shows the small departmental sign next to the time clock and suggests that there is not investment in the institution, employees punch in and punch out with the time clock. Informed by the data corpus of University of State, this image indicated the exclusion theme and the disengaged sub-theme. Figure 5 is also categorized in the exclusion theme and the disengaged sub-theme. Displayed next to a faculty member's door, it depicts a one inch square upon which students may submit their complaints. The image demonstrates a lack of concern and investment in the students and their concerns.

Figures 6 and 7 illustrate the images that indicated the inclusive theme. Figure 6 shows a framed quote that is displayed on the wall of the Department Head's office at State. The 1907 Liberty Hyde Bailey quote states, "The University Belongs to the People of the State. It Will Justify Its Existence Only as it Serves the People." This image encapsulates the land grant mission to serve the people, all of the people, not just people with privilege. Figure 7 is an image of a display board at State that describes the particular contributions of a cattlegirl that is referred to in the display as the Cattle Queen. This display was hung next to two other displays dedicated to women within the livestock industry. The displays state clearly that women have long been a part of animal sciences, not just in supporting roles but as leaders.

Discussion

The Food and Agriculture Organization of the United Nations (FAO) spells out clearly the need for innovation and education in all of agriculture, including animal agriculture in order to produce, secure, research, and inspect our food supply (“How to Feed the World in 2050,” n.d.). For departments of animal sciences at land grant universities to address this problem, they will need to question if students can see themselves studying animal sciences. Further, for scientific innovation in animal sciences, “We need to be constantly asking: ‘Who else should be here? Who else should be looking at this?’” (Wheatley, 2006, p. 66). To develop innovative and ethical solutions to the problems facing modern agriculture, the input of all involved is necessary; the voices of all classes and ethnic groups need to be engaged (Blake, 2008).

Latinas/os have long played a vital role in animal agriculture in the United States. Why they are not then represented in agricultural higher education? The mission of land grant universities is to provide access to education, especially agricultural education. If these land grant universities are to address our nation’s need for educated animal scientists, Latinas/os must be included as part of the solution. This research is concerned with privilege and oppression and is emancipatory in its inquiry aims (Freire, 1993). In keeping with a LatCrit theoretical framework, the purpose of this article is to expose and transform the master narrative in which Latinas/os are confined to stoop labor while White land owners reap the benefit of that labor (Anzaldúa, 2012; Creswell, 2013; Crenshaw *et al.*, 1995; Darder *et al.*, 2009; Delgado Bernal, 2012, 2002). The purpose of this inquiry is to assess the presence or absence of a hegemonic message being communicated in these halls of agricultural learning.

Nonintrusive research methods, such as visual ethnography that uses photographs of physical artifacts within the educational environment, provide an accurate assessment of the equity climate within an institution. Physical artifacts tell us clearly who is welcome and what is valued. In this examination of departments of animal sciences at three land grant universities, the overwhelming finding on most equity parameters is profound in its silence: the null approach. This approach is devoid of equity messages, thus inherently discriminatory because the “normal” is designed in terms of European American, male, Christian, heterosexual, physically abled privilege (Darder *et al.*, 2009; Jennings, *et al.*, 2010; Johnson, 2006; Martin, in press; Nieto & Bode, 2012; Tienda, 2103). Add this to the images that were negative in their equity approach and the result is an exclusive learning environment clearly communicated by the physical artifacts present. In keeping with the inquiry aims of a LatCrit theoretical

framework, this study suggests that the physical artifacts on display at these land grant animal science's departments reifies a master narrative. While agricultural heritage in the United States is predominantly Latina/o, the master narrative communicated in these departments of animal sciences is that Latinas/os are absent from the conversation.

Conclusion

On March 12, 2013, Hoover alerted readers of *The Chronicle of Higher Education* that “sharply increasing diversity will soon hit many states and institutions with freight-train force” (Hoover, 2013, p. A17). Animal sciences and land grant universities will not be excluded from this increasing diversity. In contrast, animal sciences with its heritage of racially and ethnically diverse laborers and land grant universities with their inherent mission to serve the people of each state, may well be positioned right on the train tracks. If institutions of higher education are to be prepared for this “freight-train,” it is important to assess the educational environments that students encounter.

Stereotype threat has been identified as a key factor in underperformance of stereotyped groups. Stereotype threat undermines academic achievement of stereotyped students by interfering with performance on mental tasks and by prompting students to protect their self-esteem by disengaging from the environment. In other words, students who are experiencing stereotype threat are likely to underperform academically and eventually remove themselves from the academic discipline. One of the critical factors in triggering stereotype threat is when people think they are in an environment where they will be treated stereotypically and are present in an environment where they may not be welcome. This research project suggests that within the departments of animal sciences that were researched, students are likely to think that they are in an environment where they will be treated stereotypically. Departments of animal sciences are sending the message that the female student presenting her honors thesis in the conference room lined with portraits of European American men can expect to be treated stereotypically. The Native American student who has raised sheep and cattle his entire life who encounters a six foot tall cowboy boot depicting a stereotypical “Cowboys and Indians” battle will likely be treated stereotypically. The Latina/o student who was raised as a dairy worker who encounters nothing that recognizes the Latina/o contributions to animal sciences will be treated stereotypically. These departments of animal sciences are yelling silently that they are not inclusive and welcoming learning environments. The physical artifacts are telling students as well as faculty and staff that one must fit within a stereotyped image of an American

cowboy to be a successful animal scientist. The artifacts communicate that there is one accepted way to be a professional agriculturalist, and it does not include female and non-White students.

We can do better. The analysis of State's images show acknowledgement of the contributions of women to animal sciences; this is a start. Figure 8 depicts an image of a bulletin board entitled *The Re-creation of Cowboys and Indians*. It is a triangulation image from State's College of Agriculture. It actively questions stereotypes and describes the involvement of Native Americans in rodeo, an activity enmeshed in departments of animal sciences. It claims space for Native Americans in animal sciences and in rodeo. This type of inclusive physical artifact goes a long way to alleviate stereotype threat. Departments of animal sciences at land grant universities need more of these examples if we are to welcome diversity, support all students, and achieve the land grant mission. Animal sciences departments could have physical artifacts that acknowledge the contributions of Latinas/os and others to animal agriculture in the United States. The present study begs the question, where are these acknowledgements? Educators can and should assess the physical artifacts in their educational environments and ask the question, are we inducing or reducing stereotype threat?

More research is necessary to guide the effort to provide inclusive agricultural learning environments. Banning, Sexton and Deniston's taxonomy provides a quantifiable and systematic method to assess physical artifacts in the learning environment, yet as a qualitative method visual ethnography allows for subjective decision making (2008). My positionality both as an agricultural insider and as an ethnic outsider is a vital yet singular lens through which to assess these physical artifacts (Innes, 2009). Future studies could include a comparative analysis of multiple perspectives assessing physical artifacts using Banning, Sexton and Deniston's taxonomy. Other studies could include the lived experiences of Latina/o and other non-White agricultural students. Studies focused on the voicing of these lived experiences could then be compared to the visual ethnography to assess if the students do feel included and supported in their agricultural education pursuits or if their lived experience parallels the finding of this visual ethnography.

Appendices

Table 1

Coding Descriptions based on Banning et al.'s 2008 Taxonomy

Level of Analysis	Category/Code	Characteristics of Code
Dimension 1	Art	Paintings, posters, sculpture, and statuary
Types of Physical Artifacts	Sign	Official signs such as restroom signs and directories, unofficial signs such as flyers and announcements
	Graffiti	An illegitimate sign: an inscription, slogan, or drawing scratched or written on a public surface
	Architecture	Physical structures of educational settings, e.g. curbs and stairs
Dimension 2 Equity Parameter	Gender	Messages about or for males, females, and the gender identity continuum
	Race	Messages concerning the socially constructed differentiation with Black and White people
	Ethnicity	Messages related to Latina/os, African Americans, Asian Americans, Native Americans, or other ethnically defined groups
	Religion	Messages concerned with religious groups, e.g. religious holiday decorations
	Sexual Orientation	Messages about the sexual orientation continuum
	Physical(access)	Messages related to issues of mobility and access
Dimension 3 Content of the Message	Belonging	Inclusion or exclusion of certain groups, e.g. including posters of Cesar Chavez, Dolores Huerta, Sojourner Truth etc. in displays about great agricultural leaders in the United States
	Safety	Any artifact that threatens or displays dehumanization of any group, or the celebration of groups or people who threaten or dehumanize others
	Equality Roles	The importance of one group relative to others People presented in stereotyped roles such as men portrayed as business or scientific powerhouses while

Dimension 4 Equity Approach	Negative	women are presented as passive or supportive Does not support equity among groups characterized as being different from the dominant culture; may be overt or subtle
	Null	Devoid of equity messages, thus inherently discriminatory because the “normal” is designed in terms of White male privilege
	Additive/ Contributions	Artifacts are added that support equity and inclusion but are presented without an equity centric position
	Transformational	Purposeful inclusion of artifacts that call for a commitment to equity through personal involvement

Table 2

Physical Artifacts across the Three Institutions, Occurrence Percentage at each Institution

Code	State University	University of State	State
Art	64.7	22.2	48.9
Signs	35.3	66.7	40.8
Graffiti	0	0	0
Architecture	0	11.1	15.3

Table 3

Equity Parameters, Message Content, and Equity Approach for State University, Occurrence Percentage of Each Code

Dimension		Occurrence Percentage			
Gender		24.5%			
Message Content	Belonging	Safety	Equality	Roles	
%	36.8	10.5	31.6	21.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	57.1	14.3	28.6	0	
Race		20.8%			
Message Content	Belonging	Safety	Equality	Roles	
%	39.3	10.7	25.0	25.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	54.5	36.4	9.1	0.0	
Ethnicity		20.8%			
Message Content	Belonging	Safety	Equality	Roles	
%	39.3	10.7	25.0	25.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	54.5	27.3	18.2	0.0	
Religion		9.4%			
Message Content	Belonging	Safety	Equality	Roles	
%	33.3	20.0	26.7	20.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	60	40	0	0	
Sexual Orientation		9.4%			
Message Content	Belonging	Safety	Equality	Roles	
%	33.3	20.0	26.7	20.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	60	40	0	0	
Physical (access)		15.1			
Message Content	Belonging	Safety	Equality	Roles	
%	36.4	13.6	27.3	22.7	
Equity Approach	Negative	Null	Additive	Transformational	
%	37.5	37.5	25.0	0.0	

Table 4

Equity Parameters, Message Content, and Equity Approach for University of State, Occurrence Percentage of Each Code

Dimension		Occurrence Percentage			
Gender		24.7			
Message Content	Belonging	Safety	Equality	Roles	
%	35.3	0	35.3	29.4	
Equity Approach	Negative	Null	Additive	Transformational	
%	21.1	36.8	42.1	0	
Race		20.5			
Message Content	Belonging	Safety	Equality	Roles	
%	46.2	0	30.8	23.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	25.0	43.8	31.3	0.0	
Ethnicity		20.5			
Message Content	Belonging	Safety	Equality	Roles	
%	57.1	0.0	23.8	19.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	26.7	40.0	33.3	0.0	
Religion		11.0			
Message Content	Belonging	Safety	Equality	Roles	
%	63.6	0.0	27.3	9.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	28.6	71.4	0.0	0.0	
Sexual Orientation		11.0			
Message Content	Belonging	Safety	Equality	Roles	
%	66.7	0.0	22.2	11.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	25	75	0	0	
Physical (access)		12.3			
Message Content	Belonging	Safety	Equality	Roles	
%	66.7	0.0	25.0	8.3	
Equity Approach	Negative	Null	Additive	Transformational	
%	44.4	55.6	0.0	0.0	

Table 5

Equity Parameters, Message Content, and Equity Approach for State, Occurrence Percentage of Each Code

Dimension		Occurrence Percentage			
Gender		21.5			
Message Content	Belonging	Safety	Equality	Roles	
%	58.6	0	22.4	19.0	
Equity Approach	Negative	Null	Additive	Transformational	
%	5.2	74.0	20.8	0	
Race		19.8			
Message Content	Belonging	Safety	Equality	Roles	
%	66.3	0	15.8	17.8	
Equity Approach	Negative	Null	Additive	Transformational	
%	14.3	78.6	7.1	0.0	
Ethnicity		22.1			
Message Content	Belonging	Safety	Equality	Roles	
%	67.0	0.0	17.0	16.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	13.9	75.9	10.1	0.0	
Religion		11.7			
Message Content	Belonging	Safety	Equality	Roles	
%	90.9	0.0	6.8	2.3	
Equity Approach	Negative	Null	Additive	Transformational	
%	2.4	90.5	7.1	0.0	
Sexual Orientation		12.0			
Message Content	Belonging	Safety	Equality	Roles	
%	87.2	0.0	8.5	4.3	
Equity Approach	Negative	Null	Additive	Transformational	
%	4.8	88.1	7.1	0	
Physical (access)		12.8			
Message Content	Belonging	Safety	Equality	Roles	
%	89.8	0.0	6.1	4.1	
Equity Approach	Negative	Null	Additive	Transformational	
%	10.9	80.4	8.7	0.0	

Figure 1. Image of Conference Room Wall at State University, Example of Exclusive and Patriarchal Physical Artifacts; These portraits are 24" x 18".



Figure 2. Image of Faculty Office Door at State University and Close-up Image of Caption on Poster, Example of Exclusive and Hegemonic Physical Artifacts

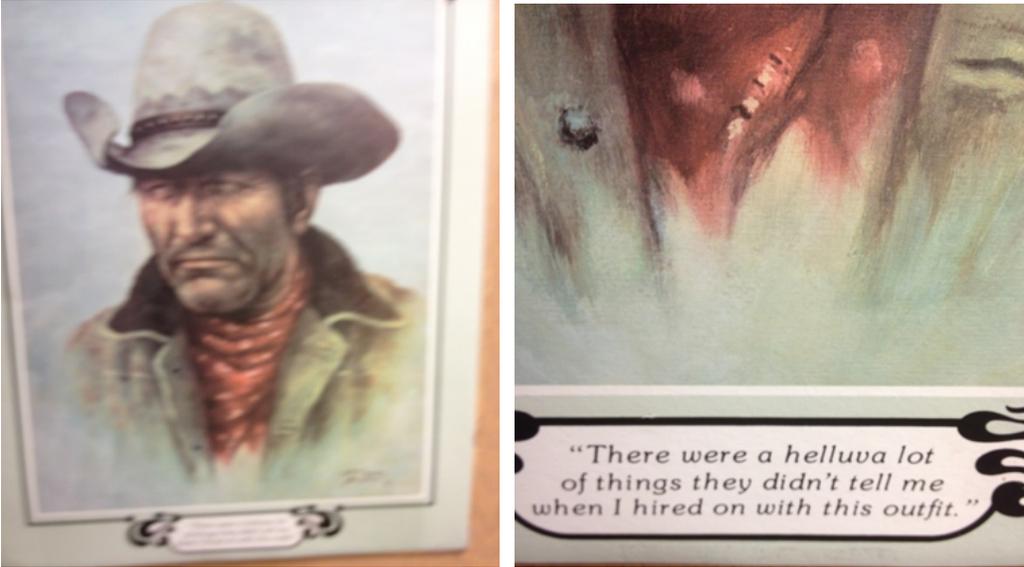


Figure 3. Image of Art at State and Close-up Image of “Cowboys and Indians” Battle, Example of Exclusive and Hegemonic Physical Artifacts



Figure 4. Image of Entrance at University of State, Example of Exclusive and Disengaged Physical Artifacts

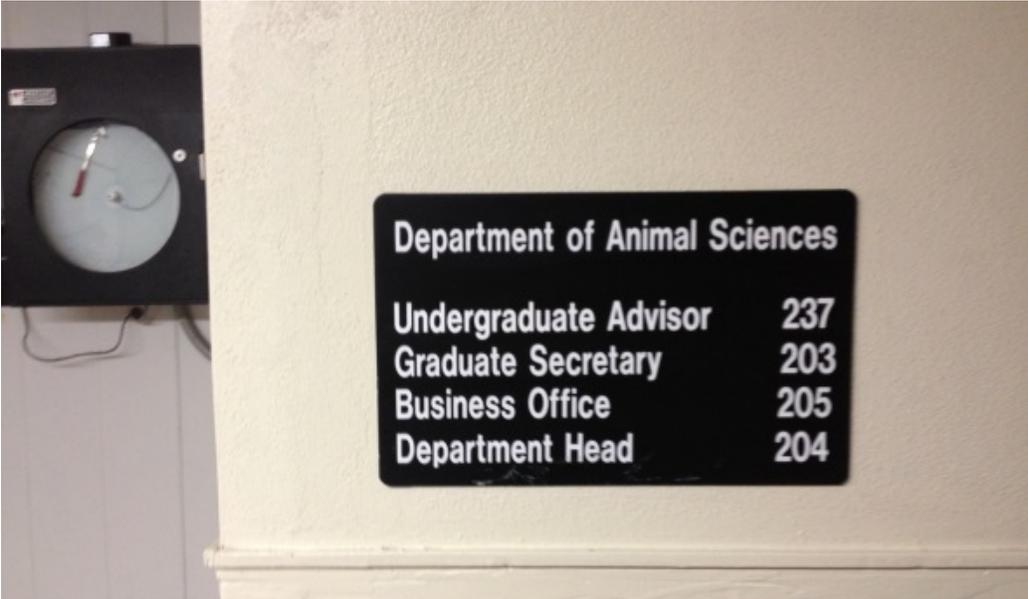


Figure 5. Image of Poster beside a Faculty Office Door at State University, Example of Exclusive and Disengaged Physical Artifacts



Figure 6. Image of Framed Land Grant Quote in the Department Head's Office at State, Example of Inclusive Physical Artifacts

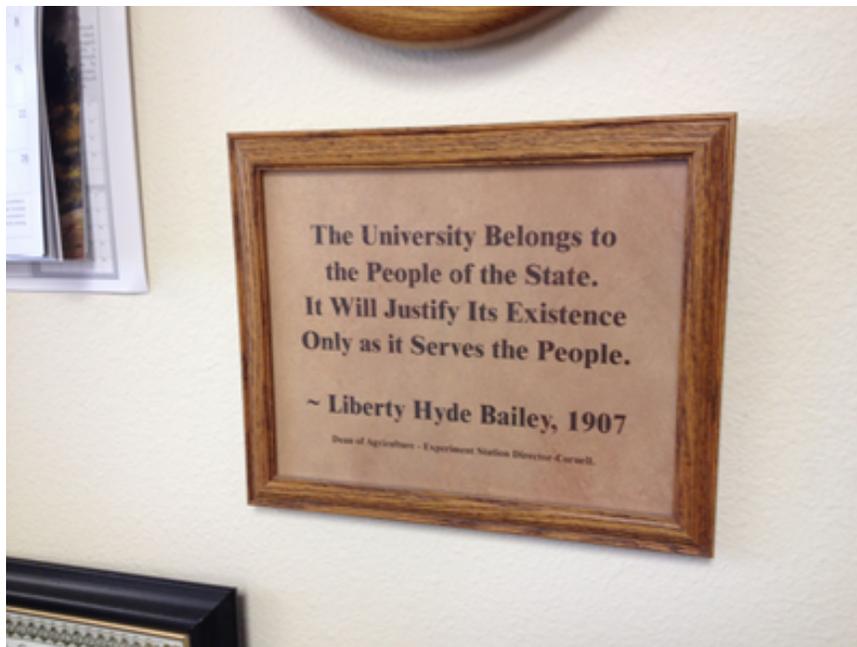


Figure 7. Image of Bulletin Board at State regarding a Cattle Queen (location is blocked) and her Contribution to Animal Sciences, Example of Inclusive Physical Artifacts

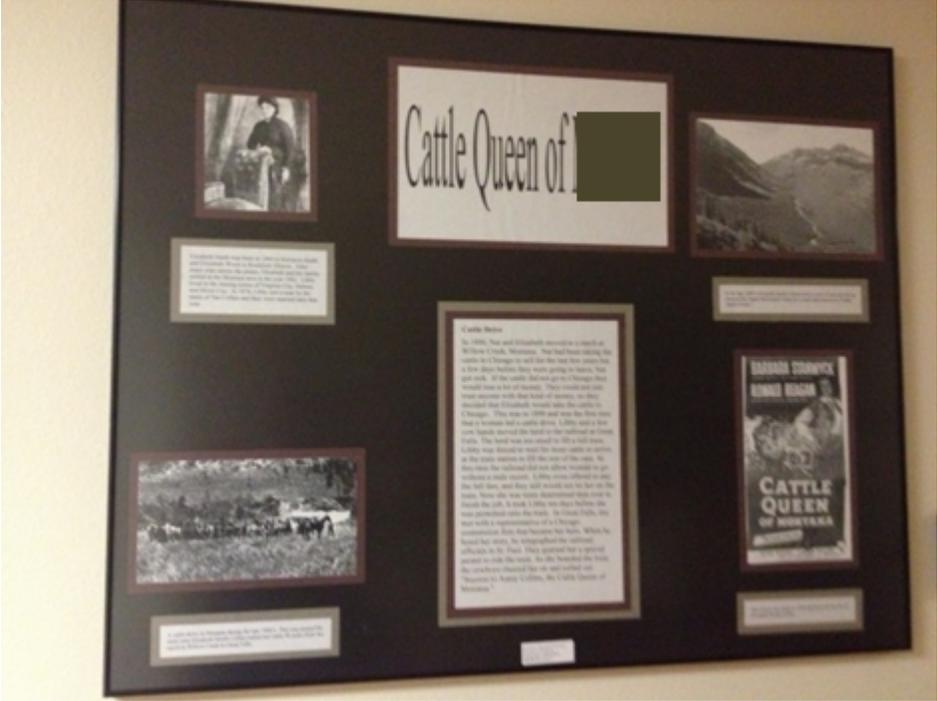
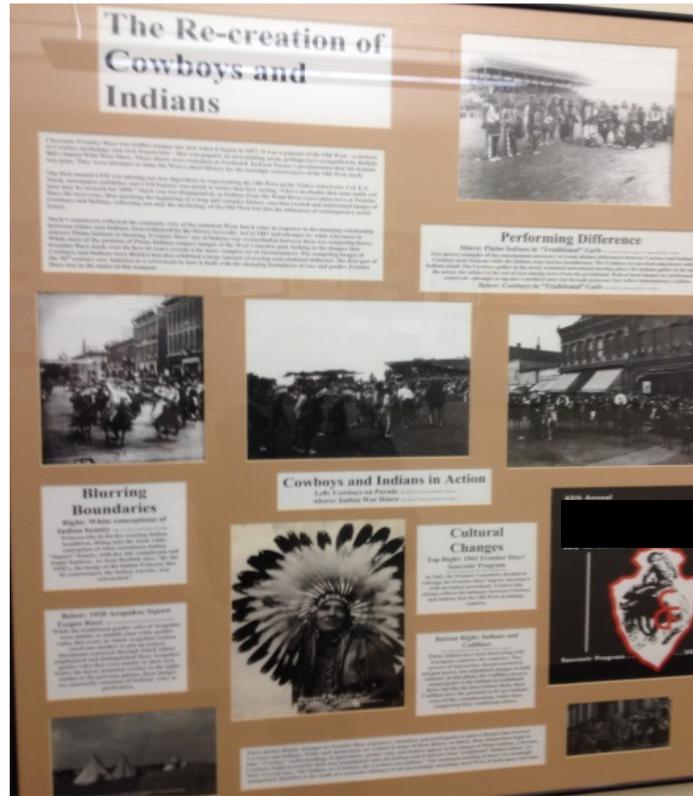


Figure 8. Image of Bulletin Board entitled The Re-creation of Cowboys and Indians, Triangulation Image from State's College of Agriculture, Example of Inclusive Physical Artifacts (location is blocked)



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