NORTHWESTERN UNIVERSITY

Museum Practitioners' Beliefs and Assumptions about Racial, Ethnic, and Cultural Diversity;
Minoritized Learners' Sensemaking; and Their Institutional Context

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

for the degree

DOCTOR OF PHILOSOPHY

Field of Learning Sciences

By

Krystal Villanosa

EVANSTON, ILLINOIS

September 2021

Abstract

This dissertation aims to: 1) characterize the range of beliefs museum practitioners have about racial, ethnic, and cultural diversity; 2) their understanding of the role of race, culture, and ethnicity in minoritized learners' sensemaking; and 3) the areas of tension and symmetry between practitioners' values and their perception of their institution's values concerning the priority that is placed (or not placed) on institutional diversity work. Taken together, this work seeks to better understand the context for museum practitioners' pedagogical practices when designing for racially, ethnically, and culturally diverse communities. Although we know something about what it means to design for diversity (Cazden & Leggett, 1976; Moll, Amanti, & Gonzalez, 1992; Lee, 1995, 2001; Ladson-Billings, 1995; Gay, 2000; Gutierrez, 2008; Paris, 2012), the majority of what we know uses schools and the formal classroom environment as a context so less attention has been paid to informal settings like museums (see notable exceptions including (but not limited to) Bang & Medin, 2010; Nasir & Hand, 2008; Cole, 2009). Similarly, while we have some ideas about how beliefs about diversity influence instructional practices (Garmon, 2004; Walker et al., 2004; Hyland, 2009; Gay, 2010), this work has primarily focused on K-12 teachers so we know very little about the role designers' beliefs play in the design of informal learning experiences for any audience, let alone a diverse museum audience. This dissertation attempts to fill in these gaps through discourse analyses of interviews with museum practitioners about the minoritized publics (e.g. Black, Latino, Asian, Native American) they, and their museums, seek to engage.

Acknowledgements

I would like to thank my advisor Dr. Michael Stephen Horn for his invaluable supervision and tutelage during the course of my doctoral studies and throughout the dissertation process. My gratitude extends to Dr. Shirin Vossoughi and Dr. Douglas Medin for their support and perspective which were influential in shaping my work. I would also like to thank my amazing cohort—Dionne Champion, Natalia Smirnov, Kalonji Nzinga, and Bryan Guo—who provided the kind of community that most do not get to experience in graduate school. I am also especially grateful to Anna Bethune, Eric Brown, Heather McCambly, Aireale Rodgers, and Gulu Saiyed for their encouragement and friendship throughout my studies. I was, am, and will always be grateful for you all.

Dedication

for my mother and my grandmother

Table of Contents

List of Tables

Article 1: Words Mean Things—How Museum Practitioners' Discursive Practices Position the Minoritized Communities They Seek to Engage

Introduction

Many social institutions have been charged with "diversifying their audiences" and "broadening participation" as a means to foster equal access and opportunity to social and economic goods. This is based on the premise that diversified participation in a domain brings novel insights, experiences and perspectives thereby strengthening said domain (Page, 2007; Herring, 2009; Duarte, Crawford, Stern, Haidt, Jussim & Tetlock, 2015). Here I wish to make explicit that "diversify" and "broaden" typically mean: 1) designing domain- (e.g. science, technology, engineering, math) and/or setting-specific (e.g. museums, colleges and universities, after-school clubs and programs) interventions that engage youth and adults from historically marginalized communities; or 2) marketing existing interventions, without modifications (e.g. making culturally relevant programmatic connections), to youth and adults from historically marginalized communities. Across many domains, attempts to engage these communities have been unsuccessful and have not led to meaningful partnerships between institutions and the communities they seek to engage (Martin, 1996; Kahn, 2000; Janes, 2009; Kania & Kramer, 2011). For example, much of the museum field's present work has centered around responding to calls for increased cultural, ethnic, and racial diversity among their visitorship (Smithsonian Institution, 2001; Fred & Farrell, 2008; Bell, Lewenstein, Shouse, & Feder, 2009). And yet, despite the wide variety of marketing, exhibition, and educational programming strategies museums employ, they struggle to attract visitors from African American/Black, Latino/Hispanic, Asian, and Native communities and do not reflect the social pluralism that characterizes the demography of the

United States (Farrell & Medvedeva, 2010; Collaboration for Ongoing Visitor Experiences Studies, 2018).

In reviewing prior work on why museums have had such limited success in reaching these communities, many scholars focus on factors external to museums arguing that members of these communities often lack the habits, social networks, and specialized knowledge necessary to view museums as a form of personal enrichment or educational leisure (e.g. Falk, 1995; Ostrower, 2005; Schwarzer, 2006). More recent work has shifted away from positioning minoritized communities through such deficit-based lenses to shed light on factors internal to museums that may serve as barriers to progress including an absence of core institutional values and practices that align with practitioners' stated goals of increasing access for marginalized communities (Ash & Lombana, 2013); museum staff that do not reflect the communities their institutions seek to engage (The Andrew W. Mellon Foundation, 2015; 2019); one-sided community-museum partnerships where the locus of control and power is with museums (Nightingale & Sandell, 2012; Dawson, 2014); a lack of explicit attention to and use of equity-oriented pedagogies by museum practitioners (Bevan & Xanthoudaki, 2008); and a need for museum practitioners to engage with, and develop, situated, historicized, and politicized understandings of educational inequality, such that they are able to design and implement interventions that address the root causes of inequities in education (Vossoughi, Escudé, Kong, & Hooper, 2013; Feinstein & Meshoulam, 2014; Vossoughi & Bevan, 2014).

In line with this, action-based think tanks, policy advocates, and funders (Forum for Youth Investment, 2003; Grantmakers for Education, 2015) have called for an increase in equity-based professional development for educators who work in out-of-school time settings like museums.

However, while practitioners across educational settings are presently being asked to increase diversity, design for inclusivity, and leverage equity-oriented pedagogies, at the time of reading, there is a dearth of empirical work that investigates informal science educators', specifically museum practitioners', beliefs and assumptions about diversity, inclusivity and equity and how those beliefs work to position particular communities—facilitating or frustrating museums' egalitarian goals (see Feinstein & Meshoulam, 2014 for key exception on science museum leaders' perspectives on equity work). This is due in large part to the scholarly inclination to treat inequality as a static characteristic of marginalized peoples, as evidenced by the descriptors of underserved, underrepresented, and underresourced, which deemphasize the dynamic cultural processes involved in creating, and actively reinforcing, inequality (Labov, 1972; Leacock, 1980; McDermott, 1997; Cole, 2013). Accordingly, the field lacks documentation of the processes of inequity—how it is reproduced and reinscribed—and, as a result, has few theoretical and practical tools needed to intentionally refuse and reject deficit-based discourses about historically marginalized peoples.

I attempt to address aspects of these gaps by analyzing museum practitioners' discursive practices when speaking about the minoritized communities they seek to engage. I ask, how are these communities positioned by what museum practitioners say about them? And how might this positioning (or these positionings) affect museum practitioners' pedagogical practices when designing interventions (e.g. exhibitions or educational programming) for these publics? In answering these questions, I wish to surface the beliefs and assumptions that museum practitioners have about persons and groups who come from the historically marginalized communities they have identified as wanting to engage—and also examine their beliefs and assumptions about

diversity, inclusion, and equity. In doing this, I frame museums' equity work as a cultural activity, situated in practitioners' norms, practices, systems, and values. I begin with a brief note on my positionality as a researcher. Next, I proceed to a discussion of the language and meaning of diversity, inclusivity, access, and equity in institutional settings. I then detail the study's conceptual framework, which uses positioning theories drawn primarily from the field of social discursive psychology. The analysis follows, leveraging data from interviews conducted with science museum practitioners (e.g. curators, exhibit designers, educators). I conclude with a discussion of the results.

A Brief Note on My Positionality as a Researcher

Salient to this work is that prior to pursuing my graduate studies, I worked in the education department of a natural history museum for six years. My experiences as a museum practitioner made me an unusually sensitized investigator, attuned to the tensions that occur when institutions like museums attempt to engage minoritized communities. While there are limitations to conducting interviews of individuals with whom I share (and disclosed I share) a professional identity—specifically some participants may have felt vulnerabilities related to my possible scrutiny of their practice or knowledge while others may have viewed me as an authoritative source of information about diversity and equity work in museums—attending to the nuances of practitioners' discourse and practice may have also been easier given my work history.

Though I share similar professional experiences as my participants, it is also important to acknowledge my position as an outsider. I come to this work as a woman of color who participates in and identifies as a member of multiple ethnic, racial, and cultural communities—Black, Filipino, Asian, immigrant, Chicagoan and American. My background as a multi-racial, multi-ethnic

woman of color from an Asian immigrant family made me an outsider with regards to racial and ethnic origin as the majority of the participants in this work were white.

I often find myself occupying "outsider within" status (Collins, 1986), situated between groups of unequal power, stemming from the interaction of hierarchies of race, class, gender, and language. My social location in specific historical contexts of race, gender, class, and language inequality has brought with it experiences that sensitize me to the conflict that occurs when engaging minoritized communities to reimagine what museums could be given that museums are contested sites of remembrance for many groups (Zolberg, 1995). Despite this conflict, the spirit with which I approach this work is that it is of great consequence to create channels for minoritized communities to determine, shape, and reframe the narratives and discourses that are perpetuated about their cultural lives—and that privileges their perspectives on their own histories. It is also equally important that the diverse ways of meaning-making that are present in these communities are not just acknowledged but supported and advanced across learning environments. This work is situated at the intersection of these concerns, contributing to conversations that move discussions about diversity and learning away from simply access and towards an understanding that an equitable learning environment is one that draws on the cultural histories and ways of knowing of all learners. If we can connect, in meaningful ways, to the life experiences of all learners, we can begin to shift our understanding of equity as offering equivalent experiences to understanding equity as offering learners what they need to be successful—based on their own definition(s) of success.

Diversity, Inclusion, Access, and Equity

The language and meaning of diversity, inclusivity, access, and equity are constantly shifting, frequently conflated, and often contested as conceptualizations of these terms vary widely across institutional contexts, domains, and scholars. Using broad strokes to operationalize these constructs for the discussion herein, diversity tends to index social diversity—diversity of race, ethnicity, language, socioeconomic status, nationality, political beliefs, gender, sexual orientation, religion, age, and cognitive and physical ability. Accordingly, institutional diversity efforts are typically concerned with the recruitment of individuals across these social identities, valuing the optics of representational diversity (Michaels, 2006; Ahmed, 2012; Henderson & Herring, 2013). Institutional diversity efforts are fueled by rationales that seem to fall into two broad categories: those motivated by explicit economic concerns and those motivated by social imperatives, although the boundaries between the economic and social tend to be so blurred as to often be non-existent. A common economic rationale pulls on our shifting demographics and makes a majority-minority argument: given that we know racially, ethnically, and culturally minoritized groups will soon make up the majority of the population, if diversity is not increased, how can we ensure sustainable production and consumption patterns (Robinson & DeChant, 1997; Ely & Thomas, 2001; Ryan, Hawdon, & Branick, 2002; Herring, 2009)? To best serve these markets, we must employ these markets. Within STEM fields, the majority-minority argument is certainly present, but it is tightly coupled with a rationale on innovation (STEM innovation = economic innovation): increasing diversity in the sciences is necessary if we want to develop creative solutions that address contemporary needs in science and technology (Bell, Lewenstein, Shouse, & Feder, 2009; National Academies, 2011; Herring, 2014). Here the emphasis appears to be on diversity of

expertise or conceptual diversity, with the implication that social diversity by its very definition leads to diversity of thought—which it does not (see vignette on page 7 for an example of why it does not). Also linked to the rationales of our shifting demographics and innovation is the rationale of global competition: diversity is a key ingredient for the United States to remain competitive, or maintain primacy, in the global marketplace (Hubbard, 2004; Iverson, 2007; Zanoni, Janssens, Nkomo, 2010; Phillips, 2014). The world is diverse, and we need to operate in ways that reflect this reality. Positioning the United States in the global marketplace has led many organizations to look to immigration as a mechanism for their diversity work. In a survey conducted by the Harris Poll of 400+ human resources professionals and hiring managers, the majority of respondents working in STEM fields indicated that immigration is a critical component of their diversity initiatives and "talent acquisition strategies" as immigration allows their organizations to address domestic skill gaps; acquire knowledge of foreign markets, business practices, and cultures; and engage in global expansion (Envoy Global, 2017).

On the other end of the spectrum for justifications of institutional diversity work are the rationales based on social imperatives, where narratives of inclusion, or inclusivity, often materialize. A popular rationale for why diversity matters is that of acceptance and tolerance: if we can respect and appreciate people who have different experiences, backgrounds, and perspectives, diversity may be realized (Pettigrew, 1998; Ahmed, 2012). Connected to this is the narrative of inclusion: diversity works best when every individual is valued and supported, with the right conditions in place for each person to achieve their full potential. To that end, we need to be receptive to the different ideas individuals put forth and ensure everyone feels a sense of safety and belonging (Cox, 2001; Pless & Maak, 2004; Syed & Kramar, 2009; Tienda, 2013; Taylor,

2017). Note that "inclusion" is commonly used to signal institutional support for whatever "differences" representational diversity may produce, denoting welcome and a high esteem for those individuals who use their "diverse" perspectives to contribute to organizational goals. At their most basic level, diversity appears to be about reaching an unspecified quota of social difference while inclusion is about figuring out ways for those differences to co-exist. Another familiar rationale is the ethical explanation of what is right: diversity is simply the right, morally upstanding thing to do (Ely & Thomas, 2001; Intemann, 2009; European Union, 2010; van Dijk, van Engen, & Paauwe, 2012). Social responsibility requires that we make an attempt to avoid continued exclusion and directly address disparities in representation across multiple domains. These rationales, coupled with the economic reasonings for diversity detailed above, lead to targeted efforts to recruit those individuals that are historically underrepresented into said domains.

Here it is important to note that these oft-used rationales for diversity and inclusion lead primarily to access work (Philip & Azevedo, 2017; Feinstein & Meshoulam, 2014)—recruiting persons and groups from minoritized communities and providing them with access to physical settings and forms of knowledge from which they are usually excluded. However, while access is commonly framed as a transformative project—having the potential and possibility to transform and disrupt the structures that create and sustain inequalities—in practice, access routinely serves as an entry point through which minoritized learners are asked to participate in, and uphold, normative social hierarchies that disproportionately advantage the dominant culture. This advantage is seen in the reification of epistemic frameworks that center the dominant culture's ways of knowing while sidelining forms of knowledge that are situated among minoritized communities (Conner, 2005; Martin, 2009; Bang & Vossoughi, 2016). I provide a vignette from

my own career to illustrate the tensions that emerge from institutional diversity and inclusion efforts that lead primarily to non-transformative access work.

Early in my career as a museum practitioner, I learned that not only was access insufficient in achieving equality, access often causes institutions to further concretize their norms and practices. The year was 2009, and I was a project manager in the education department of a natural history museum, having recently been charged with developing a suite of digital media learning programs for middle school and high school youth. The work I conceptualized focused on apprenticing youth, particularly youth of color from public schools, in the design of digital media experiences, based on either the museum's exhibitions or the research of the museum's scientists, for an audience of themselves, their peers, and the museum's public(s). I held meetings with the internal stakeholders who would need to be involved in this work and also spoke with those who might be able to serve as a resource (e.g. IT department, exhibitions and education staff, graphic design team members) for our youth. I explained that I wanted this work to be spearheaded by youth, highlighting the intellectual work that they did across digital spaces. Most of the stakeholders I spoke with expressed excitement about these programs and about partnering with our teens.

As time passed, I started to find myself receiving emails on a fairly regular basis, which listed multiple objections to our young digital designers. Staff communicated their discomfort with being contacted by teens, with teens leading meetings, and with teens accessing hallways and floors hidden from the general public. I was told that teens were interfering with staff's routines and not following the systems and processes that the museum had in place for designing experiences for the public. When I asked for specific details about how teens were interfering, I

was told that it was confusing for staff to be contacted by teens and that they felt awkward participating in meetings that were teen-led. I was subsequently asked by my director to refrain from having teens contact staff to schedule meetings. I was told that either I or one of my team members should lead any and all discussions involving our teens' projects. I was also asked to reconfigure the digital design process we had developed for our teens so that it aligned with the museum's exhibition design process.

Having been carbon copied (cc'ed) on the majority of the emails teens sent and having been present for many of the teen-led meetings, I intuited what was at the center of staff's discomfort. Our teens' outsider status (not a museum employee, not quite an intern) and their social positionality across the dimensions of age and race were producing dynamics of mistrust along with a power differential in which museum staff were unwilling to cede power to our teens, even over projects they had been explicitly tasked with managing. Notably, staff also used deficit-based discourses of young people of color as disruptive and disrespectful of existing systems along with notions that certain physical spaces (hallways and floors closed to the general public) should be inaccessible to youth to justify their discomfort and to preserve existing institutional norms and practices. Ultimately, museum staff's investment was in upholding the normative social hierarchies of youth and adult, novice and expert, and teen program participant and museum employee.

These dynamics and discourses signal that access alone does not lead to transformative outcomes. Access work seldom asks how minoritized people view their participation in an organization or interrogates how their participation is viewed by dominant, advantaged, or privileged persons (the latter is a question I attempt to answer in this work). Additionally, access

work does not typically provide minoritized persons with the language, tools, and strategies to navigate and resist deficit-based discourses. And finally, access work rarely historicizes or politicizes barriers to participation, a critical first step in dismantling the structures that shape pathways into particular settings and domains. These limitations of diversity, inclusion, and access have compelled scholars to deeply consider why equity as a construct is needed as well as how to operationalize equity when designing interventions.

Education scholars focused on issues of equity are animated by work demonstrating the fundamentally cultural nature of teaching and learning (Cole, 1996; Erickson, 2002; Rogoff, 2003; Lee, Spencer, & Harpalani, 2003; Gutierrez & Rogoff, 2003; Nasir et al., 2006; Bang & Medin, 2010). Those charged with designing learning environments and the learners who enter these spaces come equipped with knowledges and skills that have been developed and shaped as a result of participation in the everyday shared activities of their communities. Designers and learners both possess multiple repertoires of practice—specialized discourses, dispositions, values, languages, worldviews, beliefs—which they bring into learning settings, coloring the dynamics that take place within these environments. The need to explicitly affirm this diversity is highlighted by research demonstrating that when learners' epistemologies go unrecognized, they may feel psychologically unsafe, experience feelings of inadequacy, and lack a sense of belonging or identification (Steele, 1997). Furthermore, learners from minoritized communities may feel pressured to disavow their cultural beliefs and norms in order to assimilate into the majority culture. This too can have negative outcomes with regards to their emotional and cognitive development and has been shown to result in failure, at least in formal school settings (Sheets, 1999).

Scholars concerned with designing for educational equity have focused necessary attention on developing frameworks that take culture explicitly into account. These efforts have generated numerous scaffolds and strategies including (but not limited to) cultural modeling (Lee, 1995, 2001); culturally relevant, responsive, and sustaining pedagogies (Ladson-Billings, 1995; Cazden & Leggett, 1976; Gay, 2000; Paris, 2012), funds of knowledge (Moll, Amanti, & Gonzalez, 1992), and third space (Gutierrez, 2008). Foregrounded across this body of work is that education practitioners need: 1) to understand that minoritized learners are embedded in communities that give them tools for making sense of the world; 2) to take seriously the ideas and ways of knowing that learners from minoritized communities have; 3) to position these ideas and ways of knowing as intellectual resources by making explicit connections to them; and 4) to engage with both historical and present-day evidence of educational inequity such that it informs their pedagogical practices when attempting to design equitable learning environments. What may be backgrounded in this work – but is important to surface – is that providing these communities with access to high quality learning environments does not by itself achieve equity. An equity-oriented pedagogy draws on learners' multiple repertoires of practice, situates learners' cultural identities as strengths rather than deficiencies, and addresses learners' needs for inclusion and affirmation (Solórzano & Yosso, 2001; Nasir et al., 2006; Vossoughi et al., 2013). Accordingly, these frameworks make clear that access needs to be combined with learning environments that make explicit use of pedagogical approaches that acknowledge, support, and advance learners' cultural and intellectual histories.

While the development of these frameworks has been critical in advancing our knowledge of how to design educational experiences for minoritized learners, there are gaps in this work. The

majority of these frameworks are largely intended for use in formal classroom environments. Although there is rich and generative work on what it means to design for multiple epistemologies in informal environments (e.g. Gutierrez, 2008; Cole, 2009; Bang & Medin, 2010), the pedagogical strategies advocated by these frameworks are difficult to implement in informal settings like museums, which typically do not have facilitators or instructors present to directly interact with learners. Furthermore, while some of these frameworks do consider the role of the practitioner (e.g. Lee, 1995; Moses & Cobb, 2002; Nasir, Rosebery, Warren, & Lee, 2006; Rosebery, Warren, & Raymond, 2016), they tend to under-conceptualize the skills, expertise, and beliefs and assumptions practitioners, or the designers of the learning environment, might need to carry out this work effectively. In doing this, both the canonical literature, and to a large extent the discipline itself, neglects the tensions between the values and ethical principles inherent in equity-oriented pedagogies and the values held by practitioners around issues of equity. This work attempts to make a contribution that directly addresses this tension.

Positioning Theory

I turn to positioning theory, both a theoretical construct and a heuristic procedure, to examine how museum practitioners understand the historically marginalized communities they seek to engage. At the core of positioning theory is the idea of discourse as practice, a social-constructionist approach to language with many historical antecedents, which animates this work. This approach puts forward that individuals are engaged in sensemaking activities during the act of verbalization (Linell, 2001) and advances discourse as a social, collective, and dynamic process through which meaning, knowledge, and/or "reality" is constructed, acquired, reproduced, and transformed (Bruner, 1986). Scholars who use this approach present discourse as dialogical, taking

into account the multiplicity of meanings conveyed by language and further considering the multiple perspectives present in negotiating or debating "truth" (Bakhtin, 1981). They (we) also follow Vygotsky in arguing that discourse (public and private) is not localized or confined to individual minds but is instead shaped by and stems from particular cultural contexts (1980). As such, discourse is viewed as historically and ideologically contextualized social action (Foucault, 1972), foregrounding the need to examine discourse in relation to the larger normative system(s) in which people live.

Theoretically, positioning is a discursive socio-psychological process through which individuals metaphorically locate themselves and others within institutions and society at large (Harré & Moghaddam, 2003). In simpler terms, positioning is about how people use language to produce narratives about themselves and others as particular kinds of people with particular kinds of identities. The use of words to index social norms and normative ideologies, assign meaning to actions, and (re)construct distinct social and perceptual realities (Bamberg, 2005; Harré and van Langenhove, 1999; Slocum-Bradley, 2010), all factor into positioning. Taking a positioning perspective, I focus on how museum practitioners' use words and language to index normative ideologies, creating particular social realities that work to position minoritized communities in ways that hinder their aspirational goals of equity.

Positioning theorists believe that conversations have a triadic, relational, and interactional structure containing positions, speech acts, and storylines (van Langenhove & Harré, 1999; Harré & Slocum, 2003). A "position" is a cluster of personal attributes used to arrange social structures that locate people in conversations (Harré & van Langenhove, 1999; Davies and Harré, 1999). Furthermore, "positions exist as a pattern of beliefs…[and] are social in the sense that the relevant

beliefs of each member are similar to those of every other" (Harré & Moghaddam, 2003, p. 4). Speech acts have typically been defined as the words that people write or are heard to produce (a definition I take up given the nature of the data analyzed—transcripts generated from phone interviews), although recent work has broadened this to include both verbal and non-verbal communication acts such as gesture, touch, proximity, and gaze (Moghaddam, Harré, & Lee, 2008; Harré, 2012; Herbel-Eisenmann, Wagner, Johnson, Suh, & Figueras, 2015). Storylines are broad, culturally shared narratives that serve as the contextual setting for positions and positionings, opening up—or foreclosing—the types of positions and positionings that can be enacted. Given that a singular speech act can have multiple functions and meanings, the storylines that speakers allude to (implicitly or explicitly) become critical to their interpretation. Still, it is important to note that there can be, and likely are, numerous storylines and positionings taking place in any conversation—therefore the same speech act, or a series of speech acts, can be interpreted in multiple ways (Harré and van Langenhove, 1999; Harré, 2012; Herbel-Eisenmann, Sinclair, Chval, Clements, Civil, Pape, Stephan, Wanko, & Wilkerson, 2016).

To concretize the constructs of positions, speech acts, and storylines for the work discussed in this paper, let us briefly revisit the vignette I provided above of teen digital designers working in a natural history museum. In that situation, the emails I received from staff along with what was said during teen-led meetings contained speech acts that unveiled storylines and positions for both teens and museum staff. While there were multiple storylines and positions present, I highlight only one for the purposes of further clarifying how storylines and positions might be identified. One key storyline present is that "young people are disruptive," arguably a normative ideology, or shared cultural narrative, about teenagers' identities and behaviors that is given increased currency

depending on the setting (e.g. museums). In adopting the narrative of teens as disruptive, staff collectively positioned our teen digital designers as an obstacle to their productivity, impeding their ability to observe the museum's standard operating procedures. Here it is important to note that storylines and positions have implications that go beyond the theoretical, conceptual realm, profoundly affecting learning and the construction of knowledge (e.g. Holland & Leander, 2004; Wortham, 2004; 2006; Medin & Bang, 2014). Together, the storyline of young people as disruptive and the positioning of teens as an obstacle had consequences for the museum's overall approach to its digital media programs. Staff used this storyline and positioning to justify decreasing (really removing) the autonomy my team had hoped to provide to our teens over their work (e.g. no direct email communication between teens and museum staff and elimination of teen-led meetings). This positioning also created both a literal and metaphorical distance between our teens and museum staff, effectively closing the door on future (or at least near-future) opportunities for shared and equitable enterprises between these two stakeholders. What I have offered here is a brief analysis of a vignette using positioning theory as a lens. Having said that, this is merely one way in which to examine and reflect on positions and positioning.

Heuristically, positions and positioning can be assessed in a variety of ways. While positioning theory is typically associated with examinations of interpersonal encounters, it has also been applied to textual analyses, interactions between nation states, stereotypes, public relations messaging, technology-mediated conversations, and interview data (van Langenhove & Harré, 1994; Harré & Slocum, 2003; Harré, Moghaddam, Cairnie, Rothbart & Sabat, 2009; Konaev & Moghaddam, 2010; Leitch & Motion, 2010; Symons, Peirce, & Redman, 2015; Miller, 2013). The literature on mathematics education in particular offers concrete examples of assessing positions,

where research on issues related to positioning, identity and mathematical agency have provided new insights (see Ju & Kwon, 2007; Wagner & Herbel-Eisenmann, 2009; Herbel-Eisenmann & Wagner, 2010; Yamakawa, Forman & Ansell, 2009; Mesa & Chang, 2010; Wood, 2013; Herbel-Eisenmann, Wagner, Johnson, Suh & Figueras, 2015). In a study examining the role of teacher revoicing in positioning students in a high school algebra classroom, Enyedy et al. (2008) focused in on reutterances—the moments when a teacher repeated, expanded on, or rephrased students' speech acts—to better understand the ways in which the teacher was locating students in relation to themselves, other students, and the task. In detailing the role of discursive positioning in facilitating agentive participation by Latino/a English language learners, Turner et al. (2013) attended to the instances when teachers' speech acts validated student reasoning; invited students to share, justify, or clarify their thinking in ways that positioned them as capable problem solvers; and invited students to respond to another student's ideas in ways that established their ideas as consequential. In an investigation into the contexts and moments that supported or stifled equitable interactions in a high school mathematics classroom leveraging cooperative learning, Esmonde (2009) centered in on the discursive instances (as well as their classroom work practices) when students positioned themselves as experts, novices, or "in-betweens" among their peers. Discursive examples Esmonde provided of when students position themselves as competent or proficient include "I know less than you" and "This is easy" (p. 257). Note that the analytic approach, or more specifically the ways in which the unit(s) of analysis have been defined across these works, depend on researchers' theoretical commitments and the specific research questions they pursued.

Given this study's focus on museum practitioners' understanding of minoritized communities, I am leveraging a specific type of positioning—presumptive positioning.

Presumptive positioning is defined as the use of attributions of personal qualities (e.g. character, intellect, temperament) or biographical reports of past behaviors to position persons or groups, favorably or unfavorably, with respect to oneself and one's interests, or the interests of one's own group (Harré & Moghaddam, 2003; Moghaddam & Harré, 2010). I extend this definition to also include the use of attributions of biographical characteristics such as race and ethnicity, nationality, educational access and attainment, age, occupation, and languages spoken to position persons and groups. This extension is in line with Esmonde's work (2009), which suggests that people position, and are positioned, across "socially constructed norms of race, gender, socio-economic status, and a host of other social categories" (p. 251). Returning once more to the vignette of teen digital designers, we saw staff struggling to accept that teens might have their own sets of expertise and should have the right to exercise power over their own projects.

Before proceeding to the analysis and discussion, I wish to make explicit several premises about positions and positioning espoused by this work. This work takes seriously that people are not positioned simply by what they say about themselves but also by what other people say about them. This work also puts forward that positioning does not require direct presence and that persons, groups, and communities can be positioned without direct, or frequent, contact by the person(s) positioning them. This work also considers the fact that situations and events can be put into motion without the consent of positioned parties. I wish to call out that this framing is not intended to position minoritized persons or communities as passive, non-agentic recipients of the positions placed onto them by museum practitioners. Nor do I wish to imply that these communities do not have a rich history of resisting the ways in which they have been positioned through institutions' use of particular (and particularly deficit-based) narratives—because they do.

Instead, I have made the choice to foreground the perspectives of museum practitioners in a bid to shift the scholarly tendency to seek change from minoritized communities rather than pursuing lines of inquiry that may lead to recommendations for institutional transformation. It is here where I locate my work as I seek to examine museum practitioners' beliefs about persons and groups who come from historically marginalized communities as well as their beliefs about diversity, inclusion, and equity. I do this by analyzing museum practitioners' discursive practices when speaking about the minoritized communities they seek to engage and when describing their pedagogical practices when designing for these communities.

Methods & Participants

I used a comparative case study design with semi-structured, qualitative interview methods to explore how museum practitioners' discursively position minoritized communities. Interviews were conducted between July and October of 2017. All interviews were audio recorded and transcribed verbatim for analysis. Each practitioner completed a 60- to 90-minute semi-structured telephone interview. Semi-structured interviews allowed me to investigate the nuances of meaning (Miles & Huberman, 1994) present in practitioners' personal accounts of their professional experiences with, and perspectives on, community stakeholders. Interviews proceeded through eight sections focusing on (1) the occupational background of practitioners, (2) their museum's existing publics, (3) their museum's desired publics (typically minoritized communities), (4) their beliefs about racial, ethnic, and cultural diversity and learning, (5) their museum's community-partnershipping practices, (6) their exhibition or education design practices and processes, (7) the institutional factors practitioners believed facilitated or frustrated their museum's diversity efforts, and (8) the similarities and differences between practitioners' stance on diversity work and their

museum's stance. For this paper, I focus on the responses given to the following question from the third section of the interview protocol: *Are there any groups of people or communities that your museum is trying to reach that do not typically visit?*

I used a combination of snowball and purposive sampling (Weiss, 1994) to recruit museum practitioners for this study, relying primarily on referrals and word-of-mouth to build a sample and locate participants. The primary eligibility requirement I imposed is that participants needed to occupy positions that impact the design of public experiences at their institution in some way. These public experiences of course include the exhibitions themselves but also include events and programs such as adult and youth field trips, summer camps, docent tours, professional development for teachers, adult lectures, overnight programs for families, teen volunteer programs, and offsite programming designed with community engagement in mind. I therefore placed emphasis on speaking with persons involved in the design and development of exhibitions and educational programming, persons who were responsible for the intellectual and educational mission of their institutions, and/or persons who had been charged with diversifying their museum's audiences. My hope was that the use of snowball sampling would help develop of rapport with participants, as they would have heard of my study through a friend, acquaintance, or colleague (Small, 2009; Young Jr., 2004). I also shared my professional background with all of my participants in order to establish trust, letting them know that I worked in a museum setting myself for six years prior to pursuing my graduate studies. I viewed rapport as critical to my study given that issues related to diversity and inclusion (read race and equity) are often regarded as sensitive topics and I wished to make my participants feel comfortable being open, honest, and transparent when answering the questions I asked. I was also hopeful that my use of purposive

sampling would allow me to develop a varied participant pool with museum practitioners in different museums, across different departments, and in different positions of power and authority. My goal was to increase opportunities for cross-case analyses, uncovering beliefs, attitudes, and values as well as perceptual patterns of processes and interactions that were not unique to any particular museum but were instead the result of local conditions (Miles and Huberman, 1994; Morrill & Fine, 1997).

The final sample included 26 science museum practitioners from 14 institutions across 11 states. Practitioners worked in a variety of science museum settings, or institution types, including natural history museums, museums of science and industry, nature and science museums, and science and technology centers. All practitioners worked in museums located in major urban areas across the Northeastern, Midwestern, Southern, and Western regions of the United States (U.S. Census Bureau, Geography Division, 2018). Participants worked across the exhibition, education, science/research/collections, and audience research departments of their institutions in a variety of positions including vice president/chief officer, scientist/curator, director, manager, exhibit developer, and coordinator. Note that I categorized both the job titles and departments participants provided to match these positions as closely as possible. While many of my participants held titles, and worked in departments, that are common across the museum field (such as the ones listed), some worked in positions and in departments that might identify them if published. Therefore, in order to maintain the anonymity of my participants, in addition to scrubbing their job titles and departments, I have chosen to avoid listing the names of their institutions and will not provide more detailed information about their geographic locations. A little over half of participants held positions in their museum's education department (~58%). More than half of participants had

occupied their current positions for 5 years of less (~62%), although most indicated that they had professional experience in other museum settings prior to their current roles (~65%). All participants had a four-year degree with the majority having Masters/Professional degrees or doctoral degrees (PhD and/or EdD) (~69%). With regards to age, approximately half of participants indicated that they were in their 20s and 30s (~54%), while the other half were in their 40s, 50s, and 60s (~46%). With regard to gender, the majority of participants identified as female (~70%). In asking participants to self-report their race/ethnicity, the majority identified as White/Caucasian (~62%), while the remainder of the participants identified as White Hispanic, African American/Black, Asian, Latino/a, and Mixed (~38%). See Tables 1 – 4 below for the exact numeric details of practitioners' personal and professional background.

Race/Ethnicity (self-report)	Number
White/Caucasian	16
White, Hispanic	3
Black	3
Latino/a	2
Asian	1
Mixed	1

Gender (self-report)	Number
Male	8
Female	18

Age	Number
20s	4
30s	10
40s	7
50s	3
60s	2

Level of Education	Number
Four-year degree	6
Some graduate work	2
Masters or Professional Degree	13
Doctoral Degree (PhD or EdD)	5

Table 1. Participant demographics (race / ethnicity, gender, age, level of education). $N = 26$.

	Exhibitions	Education	Audience Research	Science/Collections/ Research
Vice President and/or Chief Officer	3	2		1
Scientist, Curator		1		3
Director	1	2	1	
Manager		6	1	
Exhibit Developer	3	1		
Coordinator		3		1

Table 2. Participant positions / roles across departments (exhibitions, education, audience research, and science, collections and/or research. $N = 26$ although table reflects joint departmental appointments of three participants.

Number of Years In Current Position	Number		Prior Experience in Another Museum	Number
3 months to 5 years	16		Yes	17
6 to 10 years	6		No	7
11 to 15 years	2		Unanswered	2
16 to 20 years	N/A			
20+ years	2			

Table 3. Number of years participants have occupied their current positions as well as whether they have had prior experience working for another museum. $N = 26$.

Museum/Institution Type (self-report)	Number		Regional Location	Number
Natural History Museum	11		Northeast	6
Natural Science Museum	1		Midwest	9
Science Center	7		South	3
Science and Technology Center	3		West	8
Science Museum	4			

Table 4. Participants' descriptors of the "type" of museum in which they work along with regional location of museums. $N = 26$.

Analytical Procedures

I analyzed the data generated from my conversations with museum practitioners by engaging in open coding of interview transcripts and the constant comparative method, similar to a grounded theory approach (Charmaz, 2001; Strauss & Corbin, 1998; Glaser & Strauss, 2009) but informed by positioning theory and an equity-oriented lens. Initially, I reviewed 10 transcripts,

inductively coding for emergent themes, specifically honing in on the descriptive phrases, terms, and labels museum practitioners used to describe and position the minoritized communities or groups they, or their institutions, seek to engage to better understand the ways in which they characterize these communities. I then compared the themes that emerged from each transcript, choosing a set of themes to apply to the entire set of 26 transcripts. In selecting focal themes, I used my conceptual framework to group themes together into categories such as the ones I will discuss herein—"economic, class descriptors" (present across 15 practitioners or 57.7%), "citizenship status and languages spoken" (present across 12 practitioners or 46.2%), and "STEM inequities" (present across 10 practitioners or 38.5%). As I coded the complete data set for these themes, I made detailed memos, inserting excerpts to serve as exemplars for particular themes, three of which have been selected for this paper. I then grouped these analytic memos by theme and together with the coded transcripts, they allowed me to generate a detailed summary of each theme identified.

The three themes discussed in the Analyses & Findings section were the most frequent and reflect broader tendencies across the data. The totality of my findings suggest that the three themes highlighted in this paper are central to the tensions that exist between informal science practitioners and the minoritized communities with whom they wish to engage. That said, the interviews I conducted were not intended to capture a detailed record of all of the minoritized communities practitioners seek to engage or all of the interventions they designed and implemented for these communities. These interviews were also not meant to generate a complete profile of each of their museum's institutional perspective on minoritized communities and equity-oriented programming and initiatives. It is possible, if not probable, that practitioners did not mention particular

communities, particular programs, and particular issues of equity that might have been relevant to this research. Also, because of the age of these data and the way in which conceptualizations of equity are a moving target, it is possible that practitioners' attitudes and goals around equity have shifted, or that their institutions' goals have also shifted. I surface these issues and make them explicit so that readers resist fixed and static notions of the practitioners and institutions highlighted in this study. Instead, I ask readers to hold what I noted when introducing this work—that "the field lacks documentation of the dynamic cultural processes involved in creating, and actively reinforcing, inequality." Therefore what follows is an offering towards shoring up this gap and should be read with an understanding of how shifting social and political landscapes produce ever-evolving cultural conditions that may provide opportunities to layer on new meanings and interpretations to the data presented.

Analysis

In the following section, I present excerpts from my interviews with museum practitioners. I first provide a summary of each excerpt. I then use positioning theory and an equity-oriented lens to highlight the tensions that exist in their responses to the question: *Are there any groups of people or communities that your museum is trying to reach that do not typically visit*? I illustrate how museum practitioners' discursive practices when speaking about minoritized communities have significant social and political consequences as well as implications for how interventions (e.g. exhibitions and education programs) are designed. These three excerpts highlight examples of broader trends found across practitioners I interviewed including (a) their use of economic and class descriptors to describe minoritized communities, (b) their tendency to describe immigrant communities by the languages they speak or do not speak, and (c) their application of deficit-based

interpretations of inequities in science to describe minoritized communities' participation in STEM.

Excerpt 1: "…families who live in public housing…"

The following exchange, as with all of the excerpts I am discussing in this article, took place early on in my interview with Steven (alias). Prior to responding to the question under investigation, Steven and I had already discussed his work history, how he felt his role was connected to public engagement, his museum's existing visitors, and the reasons why he believed these visitors come to his institution. In the excerpt below, Steven stated that he is in charge of a program that is attempting to engage "families who live in public housing" (lines 4 and 5) and "families who live in specific [housing] developments" (lines 7 and 8). Steven then highlighted his museum's efforts to reach "local Asian communities" (line 16) and shared that his museum has hosted many one-day cultural festivals as a means to attract "specific cultural groups" (lines 21 – 23), groups Steven did not immediately name. In his responses, Steven also made known that the programming his museum developed to reach these communities is centered around "…helping them ["them" references families who live in public housing] see the museum as a resource…" (lines 10 – 12) and "…help[ing] them ["them" indexes unnamed specific cultural groups] access the museum in a…more relevant way" (lines 23 and 24). When I asked Steven to provide demographic details about the families he referenced that live in public housing, he stated that they are trying to reach "low-income families" (lines 34 and 35). When I asked Steven to clarify what "low-income families" means, he disclosed that the program is offered in Spanish and English and the families his museum is trying to reach live in housing developments and are African American, Hispanic, and immigrants (lines 40 – 46).

Excerpt 1 [00:06:00, 09/15/17]

1　**Interviewer:** Are there any groups of people or communities that your
2　museum is trying to reach that do not typically visit?
3　**Steven:** Yes. So at the moment, I am, for three years now, I've been
4　running a program that's sponsored by the city to try to engage families
5　who live in public housing.
6　**Interviewer:** Okay.
7　**Steven:** So over the course of the year, we are busing families from
8　specific developments across the city into the museum.
9　**Interviewer:** Mm-hmm.
10　**Steven:** And providing a program for them that is aimed at helping them
11　to see the museum as a resource for them and understand how to navigate
12　the museum on their own.
13　**Interviewer:** Okay. And are there specific groups that the museum is
14　trying to reach with this programming?
15　**Steven:** The museum has certainly done some outreach with, um, kind of
16　the local Asian communities…
17　**Interviewer:** Okay.
18　**Steven:** …to try and bring them into participating in more of our
19　programming.
20　**Interviewer:** Mm-hmm.
21　**Steven:** The public programs department certainly does a lot of cultural
22　festivals, one-day festivals that are targeted at, um, kind of family
23　members from specific cultural groups who live in the city to help them
24　access the museum in a, in a more relevant way.
25　**Interviewer:** Okay.
26　**Steven:** Um.
27　**Interviewer:** Okay.
28　**Steven:** So.
29　**Interviewer:** So.
30　**Steven:** Um.
31　**Interviewer:** So two follow-up questions regarding the outreach that
32　you're involved with. What are the demographics of the people that you're
33　trying to reach out to who live in public housing?
34　**Steven:** Um, I mean they're, we're trying to reach out to, you know, low-
35　income families.
36　**Interviewer:** Mm-hmm. And what does that mean?
37　**Steven:** Um, and the demographics that we see coming through, I mean,
38　we, the program is bilingual, Spanish/English.
39　**Interviewer:** Mm-hmm.
40　**Steven:** Um, we're trying to reach out to anyone who lives in the, in the
41　housing developments, which tends to be, uh, in [the city], um, African
42　Americans and, um, uh, Hispanic, and then kind of immigrant

43 communities, but the bulk of the people that we see coming to these
44 programs…
45 **Interviewer:** Mm-hmm.
46 **Steven:** …uh, are African American.

In examining Steven's descriptions of the communities his museum is seeking to engage, I first bring focus to his hesitation to explicitly name the races or ethnicities of the persons and groups his museum is targeting. Instead, he foregrounded economic and class descriptors such as "families who live in public housing," "families from specific developments across the city," "low-income families," and "anyone who lives in…housing developments." While phrases like "low-income" or "families who live in public housing" might seem like benign references, Steven's confirmation that he was indexing only African Americans, Latinos, and immigrants with these descriptions signals the need to interpret these phrases as racially coded and classist language. Importantly, he also engages in the erasure of lower-socioeconomic white communities, never once acknowledging that these communities exist or that reaching out to these communities is a goal of his museum. By making invisible lower-socioeconomic white communities while simultaneously using terms such as low-income and public housing to refer only to minoritized communities, Steven has indexed and upheld multiple storylines including 1) "all low-income families are African American, Latino, and immigrants," 2) "all families who live in public housing are African American, Latino, and immigrants," and 3) "poverty is solely an issue for people of color." These storylines are pulled from normative, and deficit-based, ideologies about which communities participate in public assistance programs sponsored by the government as well as which communities are affected by poverty. It is a common, persistent misconception that communities of color, particularly African Americans, are more likely to be recipients of public assistance despite the fact that the largest share of participants in programs like Medicaid,

Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance for Needy Families (TANF) are white (Kaiser Family Foundation, 2017; United States Department of Agriculture, 2017; Department of Health and Human Services, 2017). It is also a common misconception that poverty is solely an issue for people of color as we know that while poverty has a disparate impact on minoritized communities, poverty affects people of all races and ethnicities (United States Department of Commerce, 2018). Still, these types of misconceptions have ramifications, particularly when they are appropriated into the public and collective discourse and used to create or sustain social representations of members of the same community. In this particular case, by using the storylines that "all low-income families are African American, Hispanic, and immigrants," "all families who live in public housing are African American, Hispanic, and immigrants," and "poverty is solely an issue for people of color," Steven positions African American, Latino, and immigrant communities as economically monolithic groups, completely comprised of families living in poverty. This positioning leaves little room for recognizing that there exists a range of social and economic realities among members of both minoritized communities and the majority culture. This positioning also does not engage with the historical and present-day evidence of why and how "low-income" neighborhoods with minoritized residents came to be.

I also consider the ways in which Steven portrayed African American, Latino, and immigrant families as requiring interventions that "[help] them to see the museum as a resource for them and understand how to navigate the museum on their own" (lines 10 and 12). He made a third statement in line with this sentiment when he referenced the one-day cultural festivals and programs his museum puts on to help members of "specific cultural groups...access the museum

in a, in a more relevant way" (lines 21 – 24). Here it is important to trouble not just how Steven discursively positioned these communities with his language but also how he positioned the role of his museum. It is not that the museum might need to change to be a resource, it is that minoritized communities need to be given the tools to see museums as a resource. It is not that the museum should adapt to become more relevant, it is that these communities do not possess the skills or abilities to understand the museum's relevance. And it is not that the museum might need to make meaningful modifications to their content or their physical footprint, it is that these communities do not understand how to navigate the museum and therefore require programmatic interventions to do so. The deficit-based frames present in Steven's response echoes the deficit-based frames found in common questions posed by researchers and practitioners in the field, questions I alluded to in the introduction to this article but that I list here as a reminder: How can museums foster museum-going habits among underrepresented groups (Falk, 1995; Wilkening & Chung, 2009)? How can museums connect diverse communities with social networks that value museums over other forms of leisure (Ostrower, 2005)? How can museums provide these communities with the specialized knowledge necessary to understand and appreciate their resources (Schwarzer, 2006)? While the content of Steven's responses and these questions may appear innocuous, the connecting theme is that the site of change practitioners and researchers seek tends to be external to the museum and located within minoritized communities. Furthermore, in positioning these communities as having gaps in their social networks and in their "specialized knowledge," museums position themselves to claim multiple forms of dominance (social, political, and economic), justifying their interventions in these communities.

I see important implications from the language Steven used to describe the minoritized communities he seeks to engage. I speculate that his use of coded, economic, and racialized descriptors is constraining his ability 1) to see, and therefore design interventions for, these communities through the lens of racial, ethnic, and cultural heterogeneity; and 2) to assess the cultural and intellectual values and practices of the communities he is hoping will visit his museum. We see evidence of the former in his monolithic treatment of African American, Latino, and immigrant communities and evidence of the latter in the interventions Steven cited, which see him designing interventions around the premise that minoritized communities need help to see the museum as relevant, and as a resource. This premise situates these communities' cultural identities as deficiencies, rather than strengths (Solórzano & Yosso, 2001; Nasir et al., 2006), effectively sidelining their cultural and intellectual histories. At best, this preserves normative, social hierarchies between Steven's museum and the minoritized communities he is hoping to reach. At worst, this creates opportunities for new inequities. The potential for the latter outcome becomes more likely when we consider the interventions Steven referenced—busing, one-day cultural festivals, programs that highlight the museum as a resource—all fall under the umbrella of non-transformative access work in that they do not address the structural mechanisms that give rise to the particular inequities each minoritized community (African Americans/Blacks vs Hispanics/Latinos vs immigrants) faces. Instead, the interventions Steven described work to become an investment in the institution itself, rather than in minoritized communities, giving the museum the ability to tout the representational optics of reaching a "diverse audience" while remaining essentially unchanged (Ahmed, 2012).

With Steven, as with all of the excerpts presented in this paper, we see how storylines and positions, whether implicit or explicit, are taken up and used as pedagogical resources that inform practitioners' views of minoritized learners and their practices when designing interventions for these publics. It then becomes critical to purposefully reflect and recognize the moments when we as practitioners use language that reproduces inequity so that we can identify opportunities to reject discursive practices that advance normative, deficit-based ideologies about minoritized communities. Through the process of refusing deficit frames, we can generate alternative, or counter, storylines and positions about the social, political, and economic circumstances of minoritized communities. In doing this we can begin the work of authentically attending to the range of identities and intellectual resources present in these communities.

Excerpt 2: "…immigrant families or families for whom English is not their primary language…"

In this second exchange, Liv stated that her museum is trying to reach "immigrant families or families for whom English is not their primary language" (lines 3 and 4). Liv then shared that her museum is working to ensure that when these communities do visit, "they feel welcome" and "feel that they can still participate" (lines 6 – 8). As a part of this effort, she has chosen to focus her attention on label copy, attempting to integrate text and visuals in a way that "if you ["you" indexes immigrant families or families who do not speak English as a primary language] don't understand what the words are on the label...the imagery, um, can still guide you…and you feel like you can still participate…" (lines 16 – 20). Similar to Steven, Liv did not immediately name the particular immigrant groups she is hoping to engage. When I indicated my lack of familiarity with which immigrant groups live in the city where her museum is located, rather than naming who they are, she instead shared which non-English languages are spoken most—Portuguese,

French Creole, and Asian languages (lines 21 – 30). Liv revealed that her museum has chosen not

to pursue bilingual label copy, stating that "once we, we're putting one language, we didn't know

if there would then be a barrier, you know, then it's still a barrier for everyone else" (lines 31 –

33). In lieu of translating label copy, Liv's museum uses words that are "friendly and recognizable"

to those who speak languages with Latin roots (lines 35 – 39). She then gave an example of using

the word "create" rather than words like "make" or "build," the latter of which she stated is not

friendly for non-native English speakers (lines 41 – 49).

Excerpt 2 [00:08:30, 8/30/2017]

1 **Interviewer:** So are there groups of, um, groups or communities that your
2 museum is trying to reach that don't typically visit?
3 **Liv:** …a lot of, uh, immigrant families or families for whom English is not
4 their primary language or their, you know, home language.
5 **Interviewer:** Okay.
6 **Liv:** Those are the groups that we've been trying to, um, reach out to, but
7 also ensuring, you know, that when they do come through the door, do
8 they feel welcome here, um, and feel that they can still participate.
9 **Interviewer:** Okay.
10 **Liv:** That they aren't, uh "Okay, great. You're here, but, you know, we
11 didn't define it for you."
12 **Interviewer:** Mm-hmm.
13 **Liv:** Um, so with me, I'm working on our exhibit development process
14 and, in particular, our label copy.
15 **Interviewer:** Okay.
16 **Liv:** Um, we're doing a lot more integration of text and visuals that are
17 sort of intrinsically linked so that if you, if you don't understand what
18 the words are on the label, hopefully the imagery, um, can still guide you
19 through an experience and so you feel like you can still participate and be
20 a part of that.
21 **Interviewer:** Got it. I do want to follow up on, so, I'm not familiar with the
22 [redacted] area. I'm not familiar with who your immigrant groups are in
23 [redacted]?
24 **Liv:** The immigrant families, we have a diverse range of folks. Um, the
25 languages, so, we do not do bilingual labels at our museum.
26 **Interviewer:** Okay.
27 **Liv:** Um, because primary, once you, once you come off of English, um,
28 Portuguese is the next, um, most spoken language and then high up is, um,

29 Creole, French Creole is pretty high. Um, let me see. Basically, you end
30 up into the, um, Asian languages, so you end up in this, um, in this sort of
31 thing where we, we decided, once we, we're putting one language, we
32 didn't know if there would then be a barrier, you know, then it's still a
33 barrier for everyone else.
34 **Interviewer:** I see. Okay.
35 **Liv:** We also do, because at least, um, a lot of them, you know, have,
36 um, Latin, or, you know, many of the languages have Latin roots.
37 **Interviewer:** Mm-hmm.
38 **Liv:** We do try to make sure that any instructional copy, um, uses some
39 sort of conjugate that is friendly and recognizable.
40 **Interviewer:** Mm-hmm.
41 **Liv:** Um, so like 'create' instead of, um, was 'make' the other one that we
42 looked at? Yeah, those kinds of things. So, we looked at, um, like the 'C-
43 R', like, the 'C-R-E', 'C-R-A', you know, that-
44 **Interviewer:** Yeah.
45 **Liv:** -that was, you know, 'create' all started around that way, um, versus
46 'make' didn't get used.
47 **Interviewer:** I see.
48 **Liv:** Or 'build'. 'Build' was the other one we were looking at. 'Build' was
49 not a friendly word, um, for non-native English speakers.
50 **Interviewer:** I see.

With this excerpt, I first examine the storyline that "label copy is a key reason why immigrants feel unwelcome by, and cannot participate in, the museum." Here, we see how storylines and positions not only locate individuals within institutions and society but also locate solutions and problems. While focusing on images and words that are more easily understood by non-English speaking visitors might be pragmatically important, positioning immigrant groups' experiences of exclusion in museum spaces as primarily an issue of languages spoken or not spoken, lends itself to centering on label copy as a solution. Here we see how deficit-based storylines and positioning can create an overly narrow focus on both a problem and a solution, potentially limiting practitioners' ability to zoom out and situate both barriers to participation and resolutions to said barriers. This constrains practitioners' explorations of the range of possibilities of how they might reimagine or redesign interventions, particularly for minoritized communities.

I also note that the intervention Liv described—using English words on label copy whose conjugations are rooted in Latin—along with the choice to not pursue bilingual label copy brings to light a broader tendency in the museum field: cultural congruence. The interventions museums employ—busing, one-day cultural festivals, programs that highlight the museum as a resource, using English words for non-English speaking visitors—reveal that they often seek participation from minoritized communities in insubstantial ways and often only when it is culturally congruent. This positions these communities as a niche audience rather than as valued stakeholders whose histories, narratives, and patronage are honored and seen as critical components of the system of values museums hold.

Importantly, like Steven, Liv also omitted naming the immigrant groups she is seeking to engage. While Steven's hesitation to explicitly identify the racial and ethnic communities his museum is targeting with their programming is arguably more marked, Liv's omission must also be considered, particularly given that these hesitations and omissions are reflected across the interviews I conducted with museum practitioners. Rather than specifying which immigrant groups she hoped to reach, Liv used language as a proxy for race and ethnicity, highlighting the languages they speak in place of naming these communities. Although Liv acknowledged that "we have a diverse range of folks" (line 24), with "folks" referencing immigrant families, she failed to acknowledge the racial, ethnic, and cultural variation that exists within language groups. French-based Creole languages are spoken natively by millions across North and South America, Europe, Africa, and Asia. Portuguese is also spoken natively by millions across South America, Europe, Africa, and Asia. "Asian languages" is a particularly troubling grouping given that ~5 billion people speak one of 2,300 languages that could be described as an "Asian language" (Ethnologue,

2019). By homogenizing non-English speakers based on the language they speak natively Liv told, or repeated, the stories that "all families who speak X language are the same," so long as X is a non-English language. Liv's lack of precision about who these communities and families are and her omission in explicitly naming them positions them as both monolithic and invisible. As we have already explored the consequences of positioning minoritized communities as intractably indivisible and uniform in the first excerpt, I discuss the issue of visibility, or rather invisibility, here.

Engaging in discursive forms of erasure and invisibility prompts questions of what gets foregrounded or backgrounded in these moments. In the case of leaving minoritized communities unnamed, I ask, how can practitioners attend to the experiences of, and design interventions for, communities they cannot, or will not, name? To what degree can practitioners take seriously the ways of knowing learners from these communities have when they have not been recognized? I also ask, is it possible for practitioners to reject deficit frames when positioning a community as invisible, a deficit frame in and of itself? And yet still, naming and identifying learners explicitly is not necessarily the solution to invisibility. In the event that Liv had named the particular communities she hoped to reach, combined with the rest of her responses, she would have still upheld the troublesome storyline that "label copy is a key reason why immigrants feel unwelcome by, and cannot participate in, the museum." This storyline obscures the fact that it is often the epistemic practices of science museums, which center scientific language, skills, and concepts as a condition for participation together with the lack of alternative, cross-cultural, *and* translated interpretations that are at the root of immigrant communities' feelings of exclusion in these settings (Dawson, 2014). Here we see that while naming and visibility may change what is seen, it does

not necessarily change how it is seen. A critical engagement with, and understanding of, the multiple epistemologies embedded in minoritized communities through a non-normative lens that actively refuses deficit-based ideologies is needed to "create openings for the assertion of alternate values" (Bang & Vossoughi, 2016, p. 181). Ideally these alternate values provide a springboard through which practitioners are able to shift, or re-tool, their perspectives on minoritized learners, their relationships with minoritized communities—specifically addressing the power differential that exists between museums and community stakeholders, and their pedagogical practices when designing interventions for these publics.

Excerpt 3: "…because of the, the STEM gap inequity…"

In this third exchange, Mari (alias) stated that her museum is "well-represented demographically" with the exception of Latino and Asian communities (lines 1 – 3). She then highlighted her museum's "Latino audience engagement initiative" (lines 5 and 6) and shared that through it, the museum is seeking to make progress in engagement, attendance, participation, and equity (lines 6 – 10). Mari indicated that her museum is reaching out to Latinos as a result of the "STEM gap inequity" (line 11), the "disparity in STEM, STEM access, and educational opportunities" (lines 13 and 14), and gaps in test scores (lines 14 – 16). In her responses, Mari made known that while the museum is interested in "more equity," (lines 19 and 20) part of the rationale for reaching out to Latinos is also as a response "for how the trends were growing demographically in the country" (lines 20 and 21). She then shared her perception that STEM "isn't really, um, a cultural practice, of, of some of the Latino community members" (lines 24 – 26). She further stated that her museum has a lot of work to do to address this, as do other museums in the United States (lines 26 – 28).

Excerpt 3 [00:10:00, 8/28/17]

1 **Mari:** …we are, uh, I mean we're pretty well-represented
2 demographically, ethnically, and racially except for in two categories,
3 which is um, uh, the Latino community and also the Asian community.
4 **Interviewer:** Okay.
5 **Mari:** And, and in fact the museum has uh, we have a Latino audience
6 engagement initiative where we're really looking to make gains and strides
7 in, in engagement.
8 **Interviewer:** Okay.
9 **Mari:** And not just in attendance, but in, you know, in participation and in
10 equity also…fundamentally, for the, for the Latino audience [the museum
11 is trying to reach out] because of the, the STEM gap inequity.
12 **Interviewer:** Mm-hmm.
13 **Mari:** When you, uh, when you look at the disparity in STEM, STEM
14 access and educational opportunities and also you look at test scores,
15 there's a real significant gap for Latinos and African Americans in
16 particular.
17 **Interviewer:** Mm-hmm.
18 **Mari:** Um, and so the museum...we knew that the Latino audience in
19 particular, was an audience we really wanted to engage. One, for more
20 equity and two, uh, you know, also for uh, being um, responsive for how
21 the trends were growing demographically in the country, and, and not
22 having the kind of representation that, that we knew, like in the future,
23 that, that if we didn't really start thinking about how to engage and have
24 the Latino community be more um, you know, participatory in STEM,
25 which we know culturally isn't really, um, a cultural practice of, of some
26 of the Latino community members, we just knew that we had a lot more
27 work to do as, as a lot of museums across the country are also realizing as
28 well.

As with the two previous excerpts, there are numerous storylines and positionings present

in Mari's response. One key storyline that Mari foregrounded is that gaps in STEM participation

among Latinos exist, at least in part, because "STEM is not a cultural practice [read value] for

some Latino community members." This storyline positions members of the Latino community as

having cultural deficiencies, lacking specific norms and values that would otherwise enable them

to be successful in STEM. This storyline also holds Latinos accountable for their own

underrepresentation in STEM, positioning their values as playing a role in perpetuating the

inequities they face. Moreover, framing the perceived absence of these norms and values as an absence of a set of cultural practices skates perilously close to, if not directly into, positioning these perceived deficits as inherited or innate—as a static characteristic of Latinos. This positioning further concretizes the notion that the problem of Latino underrepresentation in STEM is located within the Latino community itself rather than situated within the norms, practices, systems, and values of the institutions who created and perpetuate inequities.

A second storyline that Mari drew on is that "representation in STEM in and of itself addresses issues of equity in STEM." We see this in how she offered increased engagement with her museum along with increased participation in STEM by Latino community members as solutions to "disparities in STEM, STEM access and educational opportunities and test scores" (lines 13 – 16). Once more, this storyline places the burden of change on the Latino community and positions museums, Mari's museum in this case, as having a critical role to play in solving inequities in STEM, at least for the Latino community. The details of her museum's role, beyond providing access to the physical space and its contents, remain unclear both in this exchange and throughout my interview with Mari. However, in prioritizing engagement and representation, Mari's efforts, similar to Steven and Liv, seem to dwell primarily in non-transformative access work—providing Latinos access to her museum without troubling the structural barriers that serve as obstacles to participation, both in her museum and in science.

In line with the majority of practitioners I spoke with, Mari also did not trouble the enterprise of science itself, indexing the tacit storyline of "science is universal." Her work on engaging Latino audiences appears to be focused on engaging them in the normative principles espoused by Western science, which frames science as objective and value-neutral (Medin &

Bang, 2014). Too often, these principles treat science as a-cultural, leaving unacknowledged that science itself is socially constructed and exists within the cultural contexts of those who "produce" and "consume" science. In focusing the museum's Latino audience engagement around these normative principles, Mari is hindered in her ability to consider the particularities of the Latino community's relationship to science (outside of representation) or to take stock of how participation in an ethnic and historically racialized community influences, and provides tools for, sensemaking and meaning-making. Instead, her work becomes an assimilative endeavor, one that asks the Latinos she engages to appropriate disciplinary or canonical discourses and practices in the domain of science. In doing this, Mari positions members of the Latino community to uphold epistemic frameworks that center dominant forms of knowledge while decentering the ways of knowing that reside within their own community.

Mari's discursive practices when speaking about the Latino community have significant consequences. Her use of deficit-based ideologies to describe Latino underrepresentation in STEM and at her museum, particularly her attribution of cultural deficits as a contributing factor, works to preserve inequities, concretizing normative worldviews about minoritized communities and the dominant culture. By this I mean that deficit framing is regularly used to signal that particular kinds of individuals or particular kinds of communities lack something they **ought** to have—and what they ought to have are the same values, practices, and norms as the dominant culture. When these values, practices, and norms are not aligned, minoritized communities are typically assigned "gaps" (e.g. achievement, word), which Mari has done here with her mention of a STEM gap inequity for Latinos (lines 10 and 11) and a gap in test scores for Latinos and African Americans (lines 14 – 16), gaps she suggested exist because Latinos lack science-oriented values and

practices. Problematically, programmatic and policy interventions are then designed to create conditions for minoritized communities to bridge their "gaps" and reduce the differences between them and the dominant culture—efforts Mari appears to replicate. Here, we must acknowledge how stigmas, stereotypes and cultural biases are too frequently used to inform the design of policies and programs targeted towards minoritized communities. It remains less common to design policies and programs that situate disparities in ways that connect the historical and on-going oppression of particular communities with their present-day social and economic opportunities. While Mari's focus on representation does gesture towards a recognition of certain forms of racialized inequities, her lack of engagement with the historical origins of underrepresentation in STEM combined with her emphasis on access to her museum as a solution minimizes the social and political injustices that are at the root of inequities in science education and professional pathways into science (McGee & Martin, 2011). Equitable forms of teaching and learning require looking beyond representation and addressing the historically-situated structures that block minoritized communities' access to pathways of participation—such as a school system that prioritizes and advantages wealthy white communities; employment opportunities and discriminatory hiring practices; and income inequality (Anyon, 2005; Lipman 2011; United Nations Department of Social and Economic Affairs, 2017). Without acknowledging how profoundly these issues shape the distribution of opportunities to learn, Mari is constrained in her ability to productively disrupt and reconfigure the social hierarchies that reproduce inequities and decenter minoritized epistemologies.

Lastly, I note Mari's use of the majority-minority argument as a rationale for reaching out to members of the Latino community with her reference to her museum "being um, responsive for

how the trends were growing demographically in the country" (lines 20 and 21). Mari goes on to say "…not having the kind of representation that, that we knew, like in the future, that if we didn't really start thinking about how to engage and have the Latino community be more um, you know, participatory in STEM…" (lines 21 – 24). Although she did not quite complete her thought, she appeared to be rationalizing that the shifting demographics in the United States necessitates engaging the Latino community—otherwise, as the white population continues to decrease, who will visit museums and who will carry on science as we know it? Mari's emphasis here appears to be on using representational diversity as a solution to the decrease in "traditional populations" as well as a mechanism for sustaining a universalist version of the scientific enterprise. In this we see why calls for compositional diversity alone are insufficient and do not inherently challenge the status quo. Beyond access to dominant forms of knowledge or physical spaces from which minoritized communities have traditionally been excluded, Mari's call for diversity does not require, or even asks for, institutional transformation as it is disconnected from any specific principles related to ethics, justice, or care. It does not interrogate museums' historical legacy of inclusion and exclusion nor does it do the difficult work of examining how institutional norms and practices reproduce the social conditions that thwart efforts to pursue equity. Consequently, her focus on representation becomes an exercise in recruiting diversified actors to maintain, and participate in upholding, inequitable systems.

Discussion and Conclusion

Given that one of the key premises of this work advances discourse as a process through which reality is constructed and reproduced (Bruner, 1986), it necessarily follows that reproducing the language of inequity reinscribes existing normative social hierarchies and ideologies,

hierarchies and ideologies that actively thwart the disruption and transformation required to upset inequitable systems. These analyses indicate that while museum practitioners were actively engaged in designing and implementing interventions for minoritized communities, their discursive practices and the ways in which they drew on deficit-based storylines to position minoritized communities—storylines and positions which informed their pedagogical practices—were at odds with their goals of addressing inequalities both in their visitorship and in science. In addition to being deficit-based, or perhaps as a function of being deficit-based, the storylines and positions museum practitioners used to characterize minoritized communities tended to be dehistoricized and depoliticized in nature. By this I mean that museum practitioners' assessment of the state of diversity in their institutions too often concluded with what inequities were present (minoritized communities are underrepresented in museums, and in science; when minoritized communities do come to museums, they feel unwelcome) without addressing the internal and external material structures that produced those inequities (e.g. exclusionary practices, inherited sociopolitical and economic disadvantage, distribution of power between museums and community stakeholders).

That practitioners inadequately historicized and politicized their attempts to engage minoritized communities was consequential in that it opened up and foreclosed the storylines and positions available for minoritized communities to occupy. For example, casting Latino learners in a story that, for them, "STEM is not a cultural practice" makes it difficult, if not impossible, for a narrative arc to exist that positions Latinos as having any norms, values, or practices that would lead to success in STEM. However, if practitioners pulled from storylines that acknowledged minoritized learners' multiple social identities and economic experiences, foregrounded these

identities and experiences as giving rise to ways of being and knowing that are themselves intellectual resources, and connected these identities and experiences to the historical and political record, this would have opened up the possibility of learners being positioned as having cultural strengths rather than deficits. Of course the challenge facing practitioners is that normative storylines about minoritized communities are more accessible as a resource as they are firmly entrenched in our discourse and often go unnoticed and unacknowledged in the course of daily life. As a consequence, part of moving to more equitable ends is developing new storylines about learners from minoritized communities and more importantly, engaging with the storylines and positions minoritized communities have about themselves.

With this in mind, equity is not just programmatic. It is, in large part, a matter of critical self-reflection through which we challenge deeply ingrained assumptions and structural oppressions that make themselves known in our discursive practices. Yet there is a need to be cautious as even awareness of our assumptions and the structural barriers attached to the particular issues of equity we seek to confront, while important, does not by itself necessarily lead to meaningful social change. Significant amounts of institutional and individual time, energy, and commitment are needed to engage in the reflective practices required to bring to light the ways in which we are complicit in reproducing inequities. That same time, energy, and commitment are also needed for practitioners to develop the alternate values required to push back and refuse normative assumptions, both interactionally and pedagogically.

On a final note, I wish to make clear that this work is not intended to be an indictment of museum practitioners or to cast them as unaware of the challenges of cultivating lasting, equitable partnerships with minoritized communities. As a whole, practitioners were desirous of change but

lacked knowledge of the conceptual tools and frameworks—equity-oriented pedagogies and the historical and political contexts for particular inequities—needed to move the needle, even incrementally, towards equity. My interviews also revealed practitioners to be deeply reflective about their work, understanding and appreciating that access to museums is uneven and marked across the dimensions of race, ethnicity, gender, class, income, and age. Practitioners were particularly discerning about the ways in which their institutional context advanced or undermined efforts to pursue equity (see Article 3). Furthermore, as a former museum practitioner myself, I am aware of the limitations on practitioners' time to engage in critical reflective practices. I am also aware of the performance metrics that are used to measure practitioners' success, metrics that rarely reward self-, or team-based, reflection. Still, given that museum practitioners work in institutional contexts that explicitly exhibit and display the cultural lives of many minoritized communities, institutions which often claim various notions of diversity, inclusivity, access and equity as a core part of their mission, I argue that they (we) have a particular responsibility to understand, identify, confront, and reject discursive practices that reify deficit frames about minoritized learners. Through this effort, we can begin the process of addressing educational inequity, transforming not just our institutions but ourselves.

**Article 2: Museum Practitioners' Beliefs About
the Role of Race, Culture, and Ethnicity in Learners' Sensemaking**

Introduction

Calls for reform across the museum field emphasize the need for museums to diversify their audiences across the social dimensions of culture, ethnicity, and race (American Association for Museums, 1992; Smithsonian Institution Office of Policy and Analysis, 2001; Fred & Farrell, 2008; Bell, Lewenstein, Shouse, & Feder, 2009; Farrell & Medvedeva, 2010), directly addressing the severe underrepresentation of African American/Black, Latino/Hispanic, Asian, and Native communities among museum visitors in the United States (Farrell & Medvedeva, 2010; Collaboration for Ongoing Visitor Experiences Studies, 2018). In an effort to attract visitors from minoritized and historically marginalized communities, museums have employed a range of tactics including (but not limited to) providing free, or heavily discounted, museum passes; busing or bus reimbursements; featuring artists and performers from minoritized communities on heritage days or during heritage months; and developing workshops, lectures, and exhibition tours specifically targeted towards communities who otherwise might not visit museums (Spitz & Thom, 2003; Kotler, Kotler, & Kotler, 2008; Feinstein & Meshoulam, 2014). Despite these efforts, museums struggle to cultivate lasting or meaningful partnerships with minoritized communities (Hirsch, 2008; Nightingale & Sandell, 2012; Ash & Lombana, 2013; Dawson, 2014) and museum visitation by minoritized learners remains low.

Although museums' difficulties engaging historically marginalized communities are well-documented, the literature offers differing rationales as to why. Many scholars focus on the perceived habits and characteristics of the communities museums are attempting to reach, using deficit-based lenses to position minoritized learners as lacking the practices, values, norms, or

knowledge needed to understand or appreciate what museums have to offer (e.g. Falk, 1995; Ostrower, 2005; Schwarzer, 2006). Others cite factors internal to museums such as a lack of organizational values that align with the goal of increased access for marginalized communities (Ash & Lombana, 2013); community-museum partnerships that disproportionately advantage museums (Nightingale & Sandell, 2012; Dawson, 2014); and a workforce that does not reflect the communities museums seek to engage (The Andrew W. Mellon Foundation, 2015; 2019). The too-often bureaucratic nature of museums and their tendency to operate by consensus have also been shown to frustrate efforts to develop experiences for minoritized publics (Conaty & Carter, 2005; Conaty, 2008; McCall & Gray, 2014).

Researchers whose work is centered on historicizing museums submit that their historical origins make it difficult for museums to attend to the multiple epistemologies that exist across minoritized communities because they have been complicit in the construction of physical and cultural hierarchies that promote inequities and negative conceptions of these communities (Kushner, 1999; Sandell, 2007; Lynch & Alberti, 2010). It also remains uncommon for museums to provide opportunities for learners from these communities to have a say in how artifacts from their heritage are exhibited. The tension this presents is highlighted by scholars and community groups' protests against the curatorial and representational practices of museums, which they argue constrain learning and limit participation by not providing more historically accurate and contextualized social representations of minoritized and historically marginalized communities (Kirshenblatt-Gimblett, 1998; Hooper-Greenhill, 1999; Starn, 2005; Simpson, 2012).

While much of this prior work contributes to our understanding of the institutional barriers that are present across museum settings, they tell us little about the individual practitioners who

work in these institutions and are engaged in the everyday activities of developing interventions (e.g. exhibitions and educational programming) for their current and desired visitors. I seek to shift the normative framing of museums from the organizational level to thinking about museums as having intentional actors—curators, exhibition developers, museum educators—whose suite of work is focused on designing and facilitating educational experiences for existing and potential publics. In doing this, I position museum practitioners, across a range of departments and in different positions of power and authority, both as designers of learning environments and learners themselves. This move is consequential because design decisions are not made in isolation and are deeply influenced by 1) the beliefs of designers; 2) their interpretations of the social, cultural and intellectual histories and practices of their potential audience(s); and 3) their understanding of the beliefs, values, and practices of their institution, which may be counter to their own (with regards to teachers (who are also positioned as designers in this work) – see for example Nespor, 1987; Pajares, 1992; Sleeter & Grant, 1999; Kumar & Hamer, 2013). It is here where I wish to locate this work as I seek to examine and characterize museum practitioners' beliefs about the role learners' ethnic, cultural, and racial identities play in their sensemaking of museum exhibitions and education programs. Understanding practitioners' beliefs are key to understanding and reforming museum education as practitioners play a crucial role—designing interventions that have equitable, or inequitable, outcomes. I therefore attempt to surface the beliefs that museum practitioners have about the impact of ethnicity, culture, and race on learning, particularly the ways in which they consider (or do not consider) the multiple epistemologies and sensemaking tools of the minoritized learners they seek to engage. I begin with a discussion of the prior work on sensemaking and meaning-making, attending to how these terms have been deployed in the

museum education literature. I then detail the study's conceptual framework, which uses theories about beliefs drawn primarily from the fields of social psychology, educational psychology, and teacher education. The analysis follows, leveraging data from interviews conducted with science museum practitioners (e.g. curators, exhibit designers, educators). I conclude with a discussion of the results.

Sensemaking and Meaning-making

Sensemaking and meaning-making, terms that are frequently used interchangeably by scholars, are oft-examined constructs across disciplines including organizational studies, social psychology, sociology, and education. Broadly speaking, these constructs refer to the process of assigning meaning or making sense of situations and experiences as a result of observations, explorations, and inquiries. Scholars who take a sensemaking or meaning-making approach to understanding learning typically study "talk, gesture, and related interactions to understand how someone comes to attribute meaning to novel phenomenon that they see, hear, or otherwise experience" (Zimmerman, Reeve, & Bell, 2009, p. 480). Sensemaking and meaning-making have been used across a range of studies conducted in museum settings including (but not limited to) investigations of family conversations in exhibitions (Silverman, 1995; Falk & Dierking, 2000; Gutwill & Allen, 2002; Allen & Gutwill, 2003; Ash, 2004); peer interaction, collaboration, and conversation during museum visits (Rahm, 2004); student field trip experiences (Pierroux, Krange, & Sem, 2011); object- and inquiry-based learning (Rowe, 2002; Carr, Clarkin-Phillips, Beer, Thomas, & Waitai, 2012); "free-choice" learning (Falk, Dierking & Adams, 2011); and whether and how digital and mobile technologies are able to support or prompt participation (Rogers, Connelly, Hazelwood & Tedesco, 2010; Cahill, Kuhn, Schmoll, Lo, McNally & Quintana, 2011;

Meek, Fitzgerald, Sharples, & Priestnall, 2013; Hornecker, 2016). While these studies have moved our understanding of visitor engagement forward, there are key gaps and tendencies in this literature.

Current applications of sensemaking and meaning-making in museum research have limitations that are consequential to the work herein. A large proportion of these studies focus on whether or not visitors are appropriating disciplinary or canonical discourses and practices, usually in the domain of science. Too often, this literature treats science as culturally agnostic (Medin & Bang, 2014), leaving unacknowledged that science itself is socially constructed, existing within the cultural contexts—the norms, beliefs, systems, and values—of those who produce and consume science. Additionally, this literature frequently privileges the influence of the physical and social worlds designed by museums over the actual physical and social worlds those looking at exhibitions, or participating in programs, inhabit. Furthermore, while this prior work regularly attends to and builds on situated, distributed, and social views of learning, it much less frequently considers how participation in ethnic or historically racialized communities influences, and provides tools for, sensemaking and meaning-making. Last, this work is focused almost exclusively on existing museum visitors and does not account for the ways of knowing found in the minoritized and historically marginalized communities museums seek to engage (see key exceptions to the last two criticisms in Dawson, 2014 and Mai & Ash, 2012). Combined, these issues constrain how we might reimagine or redesign museums, particularly for minoritized publics.

Particularly salient to this work is how identification with, and membership in, particular cultural, ethnic, and racial communities provides tools for sensemaking and meaning-making.

Minoritized learners come equipped with social, cultural, and intellectual resources—languages, dispositions, specialized discourses, styles of talking, norms, values, beliefs, and worldviews— that have been developed and shaped as a result of participation in the everyday shared activities of the multiple cultural communities with which they identify and in which they are a member (Cole, 1996; Erickson, 2002; Rogoff, 2003; Lee, Spencer & Harpalani, 2003; Gutierrez & Rogoff, 2003; Nasir, Rosebery, Warren, & Lee, 2006; Bang & Medin, 2010).

> "Human beings, no matter who we are, where we live, or what language we speak at home, develop our ways of knowing, talking, valuing, and acting as we live our day-to-day lives inside family and community…Indeed, across communities, human beings make sense of the world in ways that are both similar and different" (Bang, Brown, Calabrese Barton, Rosebery & Warren, 2017, p. 35).

These ways of knowing and being are resources which minoritized learners draw upon, selecting from their multiple repertoires of practice to define not only who they are but also to make sense and meaning of situations and experiences, novel or otherwise (Saxe, 1996; Gutierrez & Rogoff, 2003; Nasir, Roseberry, Warren & Lee, 2006).

That individuals develop and possess tools for making sense of, and assigning meaning to, the world around them is true of all people and peoples yet is often not applied to historically racialized and minoritized learners, whose social, intellectual, cultural, and political histories and resources are often decentered or erased (Conner, 2005; Martin, 2009; Bang & Vossoughi, 2016). Consequently, the majority of both formal and informal learning environments are normed for white learners, with dominant forms of knowing becoming a condition for participation, stifling opportunities for alternative and cross-cultural interpretations and contributions. We see this on the first day of school when students are asked what they did for the summer and the child who spent their vacation in Europe is lauded and asked to recount their travels with the class. Yet, at

the same time, the child who spent time visiting their grandparents in Mexico is not viewed as having taken an international trip nor asked to share any stories from their time spent with family. We see this when students are asked to complete assignments about their ancestral origins, heedless of the fact that students with a family history of enslavement will grapple with such assignments in ways that are profoundly different from peers without this same history. And we also see this in classroom discussions about Native and Indigenous peoples in which they are referred to in the past tense, ignoring present-day Native and Indigenous communities and reflecting the fact that "86.66% of the state-level U.S. and state history standards dictate the teaching of Indigenous Peoples in the context of pre-1900 U.S. history" (Shear, Knowles, Soden & Castro, 2015, p. 81). These examples, variations of which I have experienced, witnessed, and heard recounted as happening to similarly minoritized others, make explicit how forms of knowledge situated among minoritized communities are typically sidelined in favor of epistemic frameworks that center the dominant culture's ways of knowing. They also make clear how constrained the opportunities are for minoritized learners to make safe socio-emotional connections, further marginalizing and excluding minoritized learners and often invoking feelings of isolation and alienation (Steele, 1997). Furthermore, if learning is to be meaningful, safe, and transformative for learners from minoritized communities, their pre-existing identities and histories cannot just be acknowledged but must be respected, engaged, and forwarded across learning environments.

The literature on equitable teaching practices, particularly work that explicitly foregrounds learners' cultural identities, offers concrete examples of repositioning minoritized learners as meaningful participants with assets and resources that they, and others around them, can use to

engage in sensemaking and meaning-making. In a study of an English Language Arts classroom of Black students, Lee (2001) describes cultural modeling, a form of instruction that leverages the ways of knowing students have in support of domain-specific learning in schools. Lee chronicles using the forms of talk—ritual insult, double entendre, satire, irony, indirection—that are a rich part of the African American linguistic tradition to engage black students in analyzing complex literary texts authored by black writers such as Toni Morrison, Alice Walker, and Zora Neale Hurston. In detailing teachers' ethnographic reflections of visits they made to their working-class Latino students' homes, Gonzalez et al. (1995) position students' households as critical sites for understanding the social and intellectual resources—"funds of knowledge"—students bring to schools, with teachers making explicit connections to their cultural practices and values (e.g. quinceañeras, piñata breaking, multi-generational living and child-rearing) in their curriculum and in their classroom interactions with students. In an analysis of the literary practices of a dual (Spanish) immersion elementary classroom, Gutiérrez, Baquedano-López & Tejeda (1999) centered in on the classroom's "third spaces" or the moments of hybridity—the intersection of racial, ethnic, socioeconomic, linguistic diversity and diversity of tools, roles, and activity systems—when the teacher drew on students' social differences in combination with leveraging material heterogeneity as resources for instruction. Note that across this work, culture, race, and ethnicity—specifically the norms, practices, beliefs, and values associated with learners' culture, race, and ethnicity—were positioned by researchers and practitioners as bridges to scaffold from, rather than as gaps to be bridged.

While these instructional strategies and approaches—cultural modeling, funds of knowledge, and third space—and others like them have advanced the field's knowledge of how to

design equitable educational experiences that allow minoritized learners to be recognized and affirmed, there remains work to be done in this area. Note that the majority of the instructional strategies and approaches offered by the existing literature on designing for educational equity is largely intended for settings where a teacher or facilitator is present, and therefore are difficult to translate to informal learning environments like museums where it is not uncommon for learners to have little to no interaction with instructors. What's more, these strategies and approaches are typically framed as being deployed by individual teachers or facilitators, rather than teams of individuals who have been assigned tasks based on their expertise or departmental role—a very common approach when designing experiences for the public in museums. Also, given that practitioners' beliefs have been found to have deep implications for their instructional judgments and teaching practices (see section below), there is a need for deeper engagement with practitioners' beliefs about the role of learners' ethnic, cultural, and racial backgrounds in their sensemaking. Understanding that practitioners play a prominent role in designing experiences that can reproduce and reinscribe socially, intellectually, and emotionally unsafe norms for minoritized learners OR that can intervene and disrupt practices that place minoritized learners at risk for social, intellectual, and emotional injury, I attempt to examine museum practitioners' beliefs about the influence of ethnicity, culture, and race on learning. I do so with the hope of identifying both the consequences and generative tensions in practitioners' beliefs about engaging learners from minoritized communities.

Teachers' Beliefs About Race, Culture, and Ethnicity

I turn to the literature on beliefs, specifically the prior empirical and theoretical work on teachers' beliefs about minoritized learners' social and cultural identities, as a conceptual and

analytical tool for examining how museum practitioners understand the role and impact of learners' ethnic, cultural, and racial identities on how they make sense and meaning of the experiences practitioners design (e.g. exhibitions and education programs). I do so because, at the time of reading, there remains a paucity of research on the beliefs of designers of informal learning environments, in this case museum practitioners, and the role these beliefs might play in their practice. The limited research that does exist on museum practitioners focuses on the need to acknowledge museum practitioners as both professionals and educators, detailing how practitioners come to understand their roles while characterizing how museum work is organized (Bailey, 2006; Tran, 2006; Tran & King, 2007; Tran, 2008; Bevan & Xanthoudaki, 2008; Allen & Crowley, 2013). This work suggests new frameworks and approaches to professional development for museum practitioners, who often use school-like, transmission models of teaching and learning rather than leveraging the unique affordances informal learning environments provide. While this work is notable, it is still emerging and as yet, does not touch on museum practitioners' beliefs about their visitors' identities or the identities of the socially diverse publics they wish to engage.

Despite the difference in context, I consider it an appropriate move to draw from the scholarship on teachers' beliefs about minoritized learners' identities given that teachers are designers in much the same way that museum practitioners are designers—they develop and design educational experiences for socially diverse publics. Teachers also face similar social and professional pressures within their institutional contexts (schools) in that they are presently being asked to address student diversity across cultural, racial, and ethnic lines by designing and implementing inclusive, equity-oriented interventions (e.g. curriculum). Moreover, the lines between formal and informal teaching are arguably blurred, which is further highlighted by the

similarities in teaching practices (see Table 5) across classrooms (in pursuit of curriculum development and lesson implementation) and museums (in pursuit of exhibition development and installation). Importantly, African, Asian, Latino, and Native Americans are underrepresented among teachers (Cochran-Smith, 2004; Kozol, 2005; Meier & Wood, 2004; Villegas & Lucas, 2002) in much the same way they are underrepresented among museum practitioners (The Andrew W. Mellon Foundation, 2015; 2019). For these reasons, it is fruitful to review the available literature on teachers' beliefs, particularly literature that speaks to teachers' expectations of, and responses to, minoritized learners.

Classroom Teaching Practices	Museum Teaching Practices
Identification of a lesson plan's learning objectives and outcomes	Definition of an exhibition's learning objectives and outcomes
Selection of overall topics and content for lesson plan	Identification of the overall theme of an exhibition as well as the topics for each gallery in the exhibition
Acquisition of knowledge about topic through research and interpretation of content related to chosen topics	Acquisition of knowledge through research into theme and topics as well as curatorial interpretation of an exhibition's theme and gallery topics
Creation and selection of instructional materials and classroom activities	Creation and selection of instructional materials (artifacts, label copy) and development of gallery-based activities to engage visitors in said materials (e.g. digital interactives, hands-on displays)
Implementation of lessons	
Interaction with students	Interaction with visitors or program participants (during docent tours or museum-sponsored events and education programs)
Evaluation of student-produced artifacts and student participation (homework assignments, tests)	Assessment of visitor participation (visitor studies, program surveys)

Table 5. Teaching practices across classrooms and museums.

A "belief" has been defined in a wide variety of ways by scholars across social psychology, educational psychology and teacher education. Some of the more commonly accepted definitions interpret beliefs as: 1) "suppositions, commitments, and ideologies" (Calderhead, 1996); 2) an "individual's judgment of the truth or falsity of a proposition, a judgment that can only be inferred from a collective understanding of what human beings say, intend, and do" (Pajares, 1992, p. 316);

and 3) "psychologically held understandings, premises, or propositions about the world that are felt to be true" (Richardson, 1996, p. 103). For the work described herein, I draw on literature that frames beliefs as both evidential or non-evidential (Gess-Newsome, 1999; Luft, Roehrig, Brooks & Austin, 2003), which in simpler terms means that that they can be based on objective fact or based on personal judgment and evaluation. In line with this, I follow scholars who characterize beliefs as affective and subjective (Southerland, Sinatra & Mathews, 2001; Coburn, 2000), containing attitudes, values, opinions, expectations, perceptions, preconceptions, perspectives, and dispositions (Pajares, 1992). This work is also aligned with scholars who forward beliefs as a reflection of an individual's understanding of themselves and their environment (Fishbein & Azjen, 1975), shaping their perspectives on how and where they stand in relation to other social groups (Pajares, 1992). Last, those who study beliefs propose that individuals' verbally articulated thoughts can be equated with their beliefs (Southerland, Sinatra & Mathews, 2001), a notion I take up given the nature of the question under study that I asked museum practitioners—"*Do you think people's ethnic, cultural, and racial backgrounds play a role in how they make sense of your museum's exhibitions or education programs? If so, how or in what ways? If not, why?"* Practitioners' responses to this question serve as the backdrop for the analysis herein.

Prior work on teachers' beliefs has found that almost every element of teaching is influenced by the beliefs that teachers hold, having deep implications for their planning, instructional judgements, and classroom practices (Nespor, 1987; Pajares, 1992; Smylie, 1995; Richardson, 1996; Putnam & Borko 1997; Gess-Newsome, 1999; Keys & Bryan, 2001; Kane, Sandretto, & Heath, 2002; Haney & McArthur, 2002; Luft, Roehrig, Brooks, & Austin, 2003; Knopp & Smith, 2005). This work has led to multiple lines of inquiry in the field, including

investigations into teachers' beliefs about, and treatment of, learners based on their social, cultural, political, and economic identities. Across these inquiries, scholars have consistently shown that teachers' interactions with learners are profoundly influenced by their beliefs about learners' race, ethnicity, nationality, language, gender, and socio-economic status (Baron, Tom, & Cooper, 1985; Nespor, 1987; Sadker, Sadker, & Long, 1993; Fang, 1996; Sleeter & Grant, 1999; Oakes, 2005; Jussim & Harber, 2005; Villegas, 2007; Gay, 2013; Kumar & Hamer, 2013). More specifically, while the exact instructional practices and the particular learner identities examined vary from study to study, throughout these analyses, findings indicate that when teachers' hold positive beliefs about ethnic, racial, and cultural differences, their expectations of, and actions towards, minoritized learners tend to be positive as well. This positive orientation towards minoritized learners is evidenced by teacher moves such as giving learners longer wait times to respond to questions; providing more prompts and cues; offering specific feedback; creating more opportunities to learn and practice new skills; and providing more positive reinforcement (Gay, 2000; Grant & Sleeter, 2007; McKown & Weinstein, 2008; Popp, Grant, & Stronge, 2011; Ready & Wright, 2011; Milner 2010; August & Shanahan, 2017). Unsurprisingly, these practices have been shown to have positive effects on students' learning and socio-emotional well-being. These analyses also show that when teachers' hold negative beliefs about ethnic, racial, and cultural differences, their treatment of minoritized learners tend to be negative as well, with their instructional practices lacking these teacher moves, or at least performing these moves with far less frequency, in their interactions with minoritized learners.

Perhaps more salient to this work than the interactional implications of teachers' beliefs are the implications their beliefs have when identifying the learning objectives and outcomes of

their lessons, selecting topics and content, and creating related materials and activities—which parallel museum practitioners' practices of defining an exhibition's learning objectives and outcomes, identifying an exhibition's theme and topics for galleries, and creating label copy and gallery-based activities. Research has shown that when teachers believe matters of race, culture, and ethnicity to be inconsequential to their practice, they are less likely to prioritize developing knowledge (for them or for their students) about different racial, cultural, and ethnic groups. Additionally, they tend to opt out of incorporating culturally responsive lessons or instructional techniques in their practice (Bonilla-Silva, 2014; Gay & Howard, 2000). Scholars have also found that some teachers believe that it is inappropriate to discuss race and therefore actively avoid engaging learners in "race talk" (Brown & Brown, 2012; Sleeter, 1993; Milner, 2003; Sue, 2015). Furthermore, some teachers report having fear and low levels of self-efficacy with regards to their ability to discuss issues related to race, leading them to avoid integrating these issues in their lessons as well as any conversations about broader social inequities, inequities which inevitably impact the minoritized learners in their classrooms (Milner, 2003; Garcia, 2004; Natesan & Kieftenbeld, 2013; Buchanan, 2015). Importantly, research does seem to suggest that professional development that positions learners' social and cultural differences as a resource, rather than a condition to fix, can positively affect teachers' beliefs and their sense of self-efficacy toward meeting the needs of racially, culturally, ethnically, and linguistically diverse students (Reed, 1993; Ross & Smith, 1992; Delany-Barmann & Minner, 1997; Artiles & McClafferty, 1998; Bodur, 2012).

In conversation with the work on teachers' beliefs about minoritized learners is the literature demonstrating that when learners' epistemologies—their different ways of knowing,

being, learning, behaving, communicating, and interacting with others—are unrecognized, unacknowledged, or denied and rejected, they may feel psychologically unsafe, experience feelings of inadequacy, and lack a sense of belonging or identification (e.g. Steele, 1997; Spencer, Steele, & Quinn, 1999; Aronson, Fried, & Good, 2002; Tyson, Darity Jr., & Castellino, 2005; Walton & Cohen, 2007; Yeager & Walton, 2011; Stephens, Hamedani, & Destin, 2014; Master, Cheryan, & Meltzoff, 2016). This has been shown to be true across learning environments, including museums, where scholars have surfaced how unwelcome and alienated minoritized communities feel when they visit museums (Melber, 2006; Dawson, 2014). Furthermore, minoritized learners may feel pressured to deny their cultural beliefs, values, and norms in order to assimilate into the majority culture. This too can have negative outcomes with regards to learners' emotional and cognitive development and has been shown to result in institutionally-defined failure, at least in formal school settings (Sheets, 1999).

Given that we have different bodies of evidence that show teachers hold beliefs about learners that lead them to have different expectations and responses towards learners on the basis of their identities AND that those beliefs have the power to shape learners' social, emotional, and intellectual experiences, these lines of inquiry combined support investigations into the beliefs of teachers, or designers, across learning environments—particularly those that struggle to engage minoritized communities as museum practitioners do. Changing practice is not just a matter of learning new pedagogical frameworks—it is a matter of altering beliefs and conceptions (Smylie, 1995). In order to develop the appropriate interventions and supports for designers to develop experiences that foreground cross-cultural differences in sensemaking and meaning-making, we must first understand the beliefs they hold, which this work attempts to do.

Methods & Participants

I used a comparative case study design with semi-structured, qualitative interview methods to explore the range of beliefs science museum practitioners have about the role of culture, ethnicity, and race in learners' sensemaking of their exhibitions and educational programs. Interviews were conducted in the summer and fall of 2017. All interviews were audio recorded. Audio recordings were used to produce transcriptions for analysis. Each practitioner completed a 1- to 1.5-hour semi-structured telephone interview. I chose to conduct semi-structured interviews because they allowed for the exploration of practitioners' beliefs on the influence of learners' ethnic, cultural, and racial histories on their sensemaking through the lens of practitioners' own terms (Miles & Huberman, 1994). I concerned myself with asking questions and probing for responses that revealed the "views, feelings, intentions, and actions as well as the contexts and structures" (Charmaz, 2006, p.14) of the professional lives of museum practitioners. I grappled with how to collect rich data through my interviews and was focused on having conversations with practitioners that would allow for the depiction of empirical events and the development of core categories. In conjunction with my research questions, I used the following questions from Charmaz (2006) to guide me as I conducted interviews: 1) Have I gained detailed descriptions of a range of practitioners' beliefs, attitudes, and values as well as perceptual patterns of processes and interactions? 2) Have I gained multiple views of practitioners' beliefs, attitudes, and values as well as perceptual patterns of processes and interactions? 3) Have I gathered data that enable me to develop analytic categories? 4) What kinds of comparisons can I make between the data and how do these comparisons generate and inform my ideas? In answering these questions, I positioned museum practitioners as "deep" or "key" informants (Lofland, Snow, Anderson, &

Lofland, 2006; Weiss, 1994), whose knowledge was used to either refute or confirm my findings as well as broaden any themes or categories that made themselves known in the data.

Interviews proceeded through eight sections focusing on (1) the occupational background of practitioners, (2) their museum's existing publics, (3) their museum's desired publics (typically minoritized communities), (4) their beliefs about racial, ethnic, and cultural diversity and learning, (5) their museum's community-partnershipping practices, (6) their exhibition or education design practices and processes, (7) the institutional factors practitioners believed facilitated or frustrated their museum's diversity efforts, and (8) the similarities and differences between practitioners' stance on diversity work and their museum's stance. For this paper, I examined the responses practitioners gave to the following question from the fourth section of the interview protocol: *Do you think people's ethnic, cultural, and racial backgrounds play a role in how they make sense of your museum's exhibitions or education programs? If so, how or in what ways? If not, why?* In addition to the responses practitioners gave to this question, I also reviewed the remainder of practitioners' answers throughout their interviews in order to include, and code, any statements they made that directly, or indirectly, addressed the themes embedded in this question.

I used a combination of snowball and purposive sampling (Weiss, 1994) to recruit museum practitioners for this study, relying primarily on referrals and word-of-mouth to build a sample. The primary eligibility requirement I imposed is that practitioners needed to occupy positions that impact the design of public experiences at their institution in some way. These public experiences of course include the exhibitions themselves but also include any events and programs (e.g. field trips, lectures, docent tours) practitioners designed with community engagement in mind. I therefore placed emphasis on speaking with persons involved in the design and development of

exhibitions and educational programming, persons who were responsible for the intellectual and educational mission of their institutions, and/or persons who had been charged with diversifying their museum's audiences. My hope was that the use of snowball sampling would help develop of rapport with practitioners, as they would have heard of my study through a friend, acquaintance, or colleague (Small, 2009; Young Jr., 2004). I also shared my professional background with all of the practitioners I interviewed in order to establish trust, letting them know that I worked in a museum setting myself for six years prior to pursuing my graduate studies. I viewed rapport as critical to my study given that issues related to race, culture, and ethnicity (read race and equity) are often regarded as sensitive topics and I wished to make practitioners feel comfortable being open, honest, and transparent when answering the questions I asked. I was also hopeful that my use of purposive sampling would allow me to develop a varied participant pool with museum practitioners in different museums, across different departments, and in different positions of power and authority. My goal was to increase opportunities for cross-case analyses, uncovering beliefs, attitudes, and values as well as perceptual patterns of processes and interactions that were not unique to any particular museum but were instead the result of local conditions (Miles & Huberman, 1994; Morrill & Fine, 1997).

The final sample included 26 science museum practitioners from 14 institutions across 11 states. Practitioners worked in a variety of science museum settings, or institution types, including: 11 natural history museums, 1 natural science museum, 7 science centers, 3 science and technology centers, and 4 science museums. All practitioners worked in museums located in major urban areas across the United States with 6 institutions in the Northeast, 9 in the Midwest, 3 in the South, and 8 in the West (U.S. Census Bureau, Geography Division, 2018). Practitioners worked across the

exhibition, education, science/research/collections, and audience research departments of their institutions in a variety of positions. In the end, I interviewed 6 vice presidents/chief officers, 4 scientists/curators, 4 directors, 7 managers, 4 exhibit developers, and 4 coordinators (three practitioners held joint departmental appointments and have been double counted due to their dual roles, which are reflected in these numbers). Note that I categorized both the job titles and departments practitioners provided to match these positions as closely as possible. While many practitioners held titles, and worked in departments, that are common across the museum field (such as the ones listed), some worked in positions and in departments that might identify them if published. Therefore, in order to maintain their anonymity, in addition to scrubbing their job titles and departments, I have chosen to avoid listing the names of their institutions and will not provide more detailed information about their geographic locations. A little over half of practitioners held positions in their museum's education department (n = 15, ~58%). More than half of practitioners had occupied their current positions for 5 years of less (n = 16, ~62%), although most indicated that they had professional experience in other museum settings prior to their current roles (n = 17, ~65%). All practitioners had a four-year degree with the majority having completed some graduate work or holding Masters/Professional degrees or doctoral degrees (PhD and/or EdD) (n = 20, ~77%). With regards to age, approximately half of practitioners indicated that they were in their 20s and 30s (n = 14, ~54%), while the other half were in their 40s, 50s, and 60s (n = 12, ~46%). With regard to gender, the majority of practitioners identified as female (n = 18, ~70%). In asking practitioners to self-report their race/ethnicity, the majority identified as White/Caucasian (n = 16, ~62%), while the remainder of the practitioners identified as White Hispanic, African American/Black, Asian, Latino/a, and Mixed (n = 10, ~38%).

Analytical Procedures

I analyzed the data generated from my interviews with museum practitioners by open coding transcripts while using the constant comparative method, similar to a grounded theory approach (Charmaz, 2001; Strauss & Corbin, 1998; Glaser & Strauss, 2009) but informed by theories on teachers' beliefs about race, culture, and ethnicity. My first pass through the data was completely inductive. I then compared the themes that emerged across the 26 transcripts, selecting a set of themes to apply to the entirety of the data set. In selecting themes, I used my conceptual framework to group themes together into categories including (but not limited to)—"culture is more salient in some contexts over others," "minoritized learners are framed as monolithic," and "whiteness is centered in museum and/or in exhibitions." As I coded the complete data set for these themes, I wrote analytic memos, which incorporated interview excerpts to serve as exemplars for each theme, many of which have been featured in the analysis section of this paper. I then grouped these analytic memos by theme and together with the coded transcripts, they allowed me to generate a detailed summary of each theme identified.

Note that during the course of coding, I made the decision to remove two transcripts from this analysis, as a result of changes I made to the interview question intended to capture practitioners' beliefs about whether and how ethnicity, culture, and race played a role in sensemaking. Specifically, the previous version of the question I asked was: *Do you think diversity plays a role in how people learn in your museum?* The responses I received from the two practitioners I asked this question of made clear that the wording was not as specific as it needed to be. The changes I made to the question led to notable changes in the responses garnered, making it difficult to make a fair comparison between the two practitioners who were asked the original

version of the question and the remaining 24 who were instead asked: *Do you think people's ethnic, cultural, and racial backgrounds play a role in how they make sense of your museum's exhibitions or education programs? If so, how or in what ways? If not, why?* Accordingly, the themes presented in the analysis section reflect the responses of 24 practitioners, rather than 26.

Analysis

20 of the museum practitioners interviewed for this study believed that people's ethnic, cultural, and racial backgrounds play a role in how they make sense of their museum's exhibitions and/or education programs. Of the remaining 4 practitioners, 2 indicated that they were unsure whether ethnicity, culture, and race play a role while the other 2 practitioners indicated that they play a minimal role or do not need to play a role at all. Among practitioners who believed that learners' ethnic, cultural, and racial histories influence their sensemaking, while they all believed those histories to be impactful in some way, their reasonings varied in both breadth and depth. Some practitioners provided affective reasons for why ethnicity, culture, and race might matter. For example, one practitioner stated that "…when they [Latinos] come in, there may be a feeling of feeling lost… you're surrounded by people and content that don't relate to you…" Others focused on the cognitive implications of learners' backgrounds and experiences, with a practitioner saying: "I'm a constructivist in terms of how I think about knowledge and I think people do bring a lot of structure with them and a lot of information and they try to place new pieces of information within that structure…so I do think that backgrounds and contexts people bring in with them, impact what they learn, what they're ready to learn, and what they can take away." Some shared their belief that some subjects were more culturally neutral than others. A practitioner stated: "You know, if it's black holes and quasars, there's not a lot of sociocultural baggage to that topic. Like,

folks are gonna think about Neil deGrasse Tyson and be excited and, you know, space is cool."

With these few excerpts we see that despite their overall belief that ethnicity, culture, and race

plays a role in learners' sensemaking, practitioners' beliefs as to the how, when, where, and why

differed. In this section I present the themes listed in Table 6 below, which emerged from

practitioners' responses to the question: *Do you think people's ethnic, cultural, and racial*

backgrounds play a role in how they make sense of your museum's exhibitions or education

programs? If so, how or in what ways? If not, why?

Themes	Number of Museum Practitioners	Percentage of Museum Practitioners
Do learners' ethnicity, culture, and race play a role in their sense making?		
Yes, ethnicity, culture and race play a role	20	83.33%
· Ethnicity, culture, and race influence learners' relationships to science, nature, and museum experiences	12	50.00%
· Culture is more salient in some contexts over others	7	29.17%
· There are topics and exhibits that are culturally neutral	6	25.00%
· Practitioners reflect on the influence of their own identities and experiences	5	20.83%
Unsure whether ethnicity, culture, and race play a role	2	8.33%
Ethnicity, culture, and race play a minimal role or do not need to play a role at all	2	8.33%
Barriers to minoritized learners' sense making		
Minoritized learners are framed as monolithic	4	16.67%
Whiteness is centered at museum and/or in exhibitions	4	16.67%
Culturally-based interventions		
Museum implements, or tries to implement, culturally-based interventions	12	50.00%
· Exhibits or workshops designed for particular cultural communities in celebration of heritage days or heritage months	4	16.67%
· Inclusion or exclusion of specific artifacts or images that connect with minoritized learners	2	8.33%
· Foreign translations of label copy	2	8.33%
· Visitor studies centered on the needs or interests of minoritized learners	2	8.33%
· Workshops that teach minoritized learners "how to do a museum"	1	4.17%
· Scholarships for minoritized learners	1	4.17%

Table 6. Themes within practitioners' beliefs about the role of ethnicity, culture, and race
in learners' sensemaking of exhibitions and education programs. *N* = 24.

Ethnicity, Culture, and Race Influence Learners' Relationships to Science, Nature, and Museum Experiences

Half of the practitioners' responses I analyzed (*n* = 12; 7 white, 2 white Hispanic, 1 Latino, 1 Black) demonstrated a belief that ethnicity, culture, and race have an influence on minoritized learners' relationships to science and nature, potentially impacting learners' experiences in the museum and their interpretations of museum exhibitions and programs. Practitioners' expressed this belief with comments such as: "people's relationship with nature is very unique, depending on their background and their culture;" "I think that the way that their cultural heritage shape…so many of their qualities and perspectives and viewpoints…I have seen those things impact how people use science, how they relate to science, how they connect with nature…;" and "I believe that they come in with certain preconceived notions about science…based on race and ethnicity, from their own experiences in their lifetime, which are all colored or influenced by group and ethnicity. And so, absolutely I think it makes a difference in making meaning from an exhibit." However, despite these statements, when pressed, practitioners were largely unable to provide concrete examples of any tools minoritized learners might have for making meaning of science or nature. One practitioner shared "I don't see our Latino participants engaging differently in our programs, compared to our African American participants, which basically are very few" while another stated "…obviously folks, you know, around different components of diversity might have had different experiences that impact how they think of things, but I mean, I can't think of anything that would feel consistent with that, you know?"

Practitioners' struggle to give accounts of tools or experiences minoritized learners might draw from in their sensemaking of science, nature, or the general museum experience despite their belief that ethnicity, culture, and race have an impact on learning can be attributed to many

contextual factors. Here, I surface just a few. First is the cultural mismatch between predominantly white institutions (meaning a predominantly white workforce serving a predominantly white audience) like universities and museums and the historically marginalized learners they engage—and seek to engage more broadly. Navigating such institutions, and really a world at large, normed for dominant ways of knowing where forms of knowledge found in minoritized communities are decentered and obscured, may be impeding practitioners' ability to not only see, but critically engage with, the cultural and intellectual values and practices of minoritized learners. Additionally, informal learning environments, like museums, are staffed by practitioners with widely diverse professional backgrounds with forms of preparation that rarely include exposure to equity-oriented pedagogies. Consequently, practitioners often do not have the lenses, language, or pedagogical expertise required to 1) recognize minoritized learners' multiple epistemologies; 2) articulate the epistemological tools learners have; and 3) develop interventions that explicitly foreground the assets and resources minoritized learners use for sensemaking (see Culturally-Based Interventions section below). Furthermore, while practitioners of color bring a great deal of knowledge, experience, and understanding of minoritized communities as a result of their lived experiences, that they also had difficulty providing examples of resources minoritized learners have highlights the need to build practitioners' capacity to engage with, and develop, situated understandings of how participation in ethnic or historically racialized communities provides tools for sensemaking.

Practitioners' belief that minoritized learners' relationships to particular domains are influenced by their ethnic, cultural, and racial histories is generative in that it creates potential openings for practitioners to develop critical understandings of the multiple epistemologies embedded in these learners' communities. However, there is a clear need for practitioners, at least

those interviewed for this work, to have meaningful equity-oriented professional development such that they are able to understand other cultural communities through the eyes of the learners within those communities.

Culture is More Salient in Some Contexts Over Others & Culturally Neutral Topics, Exhibits

One-third of practitioners ($n = 7$; 6 white, 1 white Hispanic) expressed their belief that culture is more salient in some contexts over others. For these practitioners, the importance of learners' cultural backgrounds is dependent on the domain or the setting. For example, three practitioners referenced natural history museums as sites where culture might be more explicit with one stating: "It's a little easier I think at [natural history museum X] to see how people's cultural backgrounds play out because they're a little more hard-hitting with some of their cultural topics." In discussing a program they were delivering to Black and Latino youth about forest biodiversity, one practitioner stated: "I think if we were doing more human history, cultural history…it'll be more instinctive to think about the human, cultural element. But if we're teaching a program about forest biodiversity and…protect[ing] forest health, we're not thinking about how our different audiences are bringing different backgrounds…I believe it plays a role, but it's not as important." For this practitioner, implementing a program about forests does not require much consideration of minoritized learners' backgrounds whereas a program explicitly focused on cultural history might. They put forward that any human or cultural aspects connected to the subjects of forest biodiversity and forest health is unimportant, or "not as important," suggesting 1) a belief in universal topics—topics that are accessible, understood, and are useful to all people; and/or 2) a belief that regardless of learners' epistemologies, there are "right ways" to learn, as well as "right things" to learn, at least when discussing forest biodiversity and forest health.

Adjacent to the belief in the contextual salience of culture is practitioners' belief in culturally neutral topics and exhibits. One-fourth of practitioners ($n = 6$; 5 white, 1 white Hispanic) signaled their belief in cultural neutrality, suggesting that there are topics and exhibits that do not come with "a lot of sociocultural baggage" and therefore do not require learners to engage with their racial and cultural backgrounds to making meaning of said topics and exhibits. One practitioner made this belief explicit, citing two exhibits at their museum, one which they believed required learners to index their racial and cultural histories while the other did not.

> …it depends on the exhibit. One of our exhibits is all about health and human wellness. I think you have to think through your own experience and your own racial and cultural background is part of that. Something that doesn't have as strong as a personal connection, we have an exhibit that's about automation, like robotic manufacturing. I don't think anyone's gonna think through a lot of cultural context in that exhibit right because it's a robot that builds toys. It doesn't have personal connections.

In examining this practitioner's response, we see that for them, an exhibit on health and human wellness necessitates pulling from "your own experience." They also explained "racial and cultural background is part of that ["that" indexes "experience"]." They went on to say that an exhibit on automation and robotic manufacturing, or "a robot that builds toys," does not have personal connections for learners and therefore they do not believe that learners need to "think through a lot of cultural context" to make sense of the exhibit.

Across the cases of practitioners' belief in culture as contextually salient as well as their belief in culturally neutral topics and exhibits, I trouble the lack of attention to learners' social locations and histories. Inattention to historically marginalized learners' identities and histories often works to, directly or indirectly, erase minoritized forms of knowledge. This erasure reinscribes and re-centers dominant epistemologies around race and class, enabling normative

power dynamics to persist (Bang & Vossoughi, 2016). As previously discussed, epistemic practices that center dominant ways of knowing limit the opportunities for minoritized learners to provide alternative or cross-cultural interpretations of social and scientific issues and phenomena. In leveraging these practices, practitioners design and deliver interventions with inequitable outcomes—where learners from the dominant culture are able to be full participants, using their whole selves, histories and identities in their sensemaking while minoritized learners' cultural and intellectual resources remain unacknowledged.

In order to productively disrupt museum practitioners' beliefs, particularly those beliefs that may cause unintentional harm to learners, we must first identify them. In identifying them, we can begin the work of challenging and reconstructing them. For the field at large, additional work around practitioners' beliefs of cultural saliency and neutrality are needed as they shape practitioners' ideas of the "right ways" and the "right things" that are "important" to foreground for learners.

Practitioners Reflections on the Influence of Their Own Identities and Experiences

One-fifth of practitioners (*n* = 5; 4 white, 1 white Hispanic) reflected on their own social and professional identities and experiences, believing them to influence 1) how they think about what takes places in their museum; 2) how they engage with minoritized learners; and 3) how they think about how knowledge is constructed. One practitioner described how having an anthropology degree affected the way they interpret what takes place in museums, stating that they believe that learners' cultural backgrounds influence "how they experience language, colors, and physical spaces like museums." Another practitioner recounted transitioning from the South to the West Coast for their first job, with the hope of using their expertise in environmental education in their

work with young people. Instead they found themselves drawing more from their experiences of the many challenges transitioning to the West Coast entailed given that many of their program participants were learners from migrant communities. A third practitioner identified as a constructivist (quote above), stating that this identity made them believe that learners have existing (cognitive) structures in which they try to organize new information. They further added that learners' backgrounds and contexts shape what they learn. In describing their fieldwork experiences excavating a "slave site," a fourth practitioner shared that because their family history did not include any stories of enslavement, it was difficult for them "to even wrap [their] head around that [they were] working at a home of someone who was owned by someone." They expressed their belief that for those learners who do have this history, the site was "more real," particularly for those who are able to trace their ancestors back to that slave site.

Across these practitioners, the act of self-reflection appeared to re-center these practitioners' belief that minoritized learners also use their identities and experiences in navigating the world around them. These reflective moments also served to highlight these particular practitioners' sensitivities to the complexities of sensemaking and the ways in which identification with, and participation in, ethnic, cultural, and racial communities provide lenses for sensemaking. I provide an example of a practitioner's reflective moment below.

> My own cis-gendered, white male perspective allows me to walk through the museum and see, especially in our anthropology halls, see the way that I've always been taught about Asia or Africa throughout my schooling represented back to me. And it kind of makes sense, and I feel comfortable, and it's easy for me to access. But then as I started spending time in those halls, I noticed that it presents a historic perspective of African culture as understood by white anthropologists in the 1960s. You can walk through the entire exhibit and walk away thinking that there's not a city in all of Africa, that it's all kind of rural, agrarian, and hunter-gatherer communities throughout the entire continent. Where the conversation on the slave trade is relegated to a very small corner of the exhibit that's not even in the main

exhibition that just shows a couple of shackles and a layout of the slave ship with very little judgment placed on it. I feel like, just like I have my [cis-gendered, white male] perspective, so will other people, particularly African Americans. I believe now that any African American who comes to that exhibition, you know, will understand it and interpret it in a vastly different way and learn very different things from it than I do. And kind of the, the reinforcement of an oppressive ideology, you know, is present and, not something that I felt the first time I walked through that hall.

Here we see this practitioner engaged in critical self-reflection, explicitly identifying his positionality across the social dimensions of race and gender, making connections to how this positionality initially provided him with comfort when walking through his museum's halls. We also see him index the normative lenses used in the schooling he received and how those lenses provided him with access to the normative narratives centered in his museum's Africa exhibit. He shared that over time he began to notice that the narratives presented—a rural, agrarian Africa with no cities and comprised of hunter-gatherer communities—were drawn from white anthropologists from the 1960s. He also cited the lack of physical space given to the topic of slavery, also noticing the lack of moral and ethical engagement with the subject. He then acknowledged that learners each have their own perspectives and that African Americans in particular would understand the Africa exhibit in a different way and learn different things from it than he does.

All five practitioners indexed their social and professional locations and its role in shaping their perspectives in ways that are comparable to the practitioner above. This is notable as research has shown that practitioners must first recognize and understand their own worldviews, attitudes, and beliefs to understand the worldviews of others (Banks, 1994; Bennett, 1993; Cochran-Smith, 1995; Derman-Sparks & Phillips, 1997; Lawrence & Tatum, 1997). These practitioners' responses showed evidence of varying degrees of prior self-reflection that may have deeply challenged ingrained assumptions they held about minoritized learners, or the histories of minoritized

communities. Given these practitioners' critical engagement with minoritized learners' epistemologies, or at least their willingness to engage in perspective-taking, it may be fruitful work for both museums and practitioners to deeply dwell in reimagining how both institutional systems and pedagogical practices can be restructured to create the time and commitment needed for self-reflective work around both their beliefs and identities and the beliefs and identities of the minoritized learners they seek to engage.

Uncertainty If Ethnicity, Culture, and Race Play a Role; It Does Not Have to Play a Role; It Plays a Minimal Role

As previously mentioned, two practitioners (1 white, 1 Black) indicated that they were unsure whether ethnicity, culture, and race play a role in learners' sensemaking. One practitioner said "I don't know if I can answer that. I-I don't know. I don't know. I think you would have to ask the people that are coming into the museum that question. That's kind of all I have." In interpreting their response, it was unclear whether they truly did not have an answer or if they preferred not to speak on behalf of minoritized learners. The second practitioner who expressed uncertainty stated the following:

> I don't know [if people's ethnic, racial, and cultural backgrounds play a role in how they make sense of exhibits and programs]. I really can't say that I see any differences, because when people come to our programs, we're very clear about what we're going to do, what we're about. And so, they're there to look for wildlife. They're there to learn about nature in this park and regardless of what their backgrounds are, they're all learning the same thing and learning it in the same way.

In this practitioner's response, we once again see 1) the struggle to give an account of tools or experiences learners might draw from in their sensemaking; 2) a lack of attention to learners' social locations and histories; 3) a belief in universal topics—in this case, wildlife and nature in the park; and 4) a belief in "right ways" and "right things" to learn. Having already discussed the

consequences of practitioners' struggle, inattention, and these beliefs, I will refrain from repeating them again here. However, what separates this practitioner's response from others is their statement that when learners "come to our programs, we're very clear about what we're going to do, what we're about." In combination with their assertion that "regardless of what their backgrounds are, they're all learning the same thing and learning it the same way," we can infer that social and cultural differences were likely not used as a resource in the development of this practitioner's program. It is also unlikely that their instructional practices incorporated culturally responsive strategies, limiting minoritized learners' opportunities to make meaningful connections that draw from their cultural and intellectual identities and histories.

In addition to these two practitioners, one practitioner shared their belief that ethnicity, culture and race do not need to play a role while another practitioner stated that it plays a minimal role ($n = 2$; 2 white). The former's exact response to the question of whether ethnicity, culture, or race played a role in learners' sensemaking of exhibitions and programs was: "Um, I mean, I don't, I can't think of any reason why it would need to. You know what I mean?" When I responded by stating that I did not know what they meant and if they might say more, they said that this was something that they had not given much thought to and so they did not have anything additional to share with me at that time. The second practitioners' response follows:

> **Interviewer:** Do you think that people's ethnic and cultural and racial backgrounds play a role in how they make sense of your museum's exhibitions and programs?
> **Practitioner:** Minimally, yes. We do know through some of our evaluation that at least some of our guests have identified themselves as being non-white. I would like to, you know, say that eventually our country, I hope will be a post racial country, whatever that might take shape and look like. But currently I do believe that people utilize their upbringing, their cultural knowledge to shape how they're doing, why they're doing, what they're doing, and what it is that they're making sense of. And how they're engaging at our museum.

For this practitioner, ethnicity, culture, and race play a minimal role in how learners make sense of exhibitions and programs. They indicated that while they do believe learners' upbringing and their cultural knowledge shape their sensemaking, they hope for a post-racial future. Their words appear to imply that this post-racial future may not require consideration of learners' upbringing and cultural knowledge. Their words also seem to suggest a future in which there is a universal epistemology from which learners can draw from to assign meaning to their activities, both inside and outside of the museum. Notably, while colorblind language was commonly used to some extent by many practitioners, this was the only instance of an explicit reference to an imagined post-racial future. By colorblind, I mean practitioners' use of language and ideas that ignore racial, ethnic, and cultural differences; position race, ethnicity, and culture as inconsequential; or relegates race, ethnicity, and culture as salient to particular contexts and not others (e.g. a belief in culture as contextually salient or cultural neutral topics and space). By post-racial, I reference the idea that there will be a time when society has moved beyond racial, ethnic, and cultural divisions as informed by a pivotal moment or a specific historical event (e.g. many Americans attempts to claim post-raciality after Barack Obama's election) (Pinder, 2015; Bonilla-Silva, 2014). While this specific narrative was not common among the practitioners I interviewed, the potential consequences of using this narrative are in line with those previously discussed.

I surface here that expectations of cultural neutrality or a post-racial present or future is both unrealistic and false. Practitioners who claim to not see race, ethnicity, or culture (or its importance in certain contexts) and who push for post-raciality, still expect minoritized learners to conform to a set of expectations or practices based on dominant norms (Milner, 2010). Without opportunities to learn about the salience of race, ethnicity, and culture to sensemaking,

practitioners enter learning environments with colorblind and post-racial orientations, which attempt to standardize or normalize learners as equivalent regardless of their racial, ethnic, and cultural backgrounds (Bonilla-Silva, 2014; Milner, 2012). Given the educational role that practitioners want to play in the lives of minoritized learners, there is a clear warrant for them to develop nuanced understandings of race, ethnicity, and culture and their salience to learning.

Barriers to Minoritized Learners' Sensemaking

One-third of practitioners ($n = 8$; 6 white, 1 white Hispanic, 1 Black) cited barriers to, or constraints on, minoritized learners' sensemaking in their museum's exhibitions or during their programs. All 8 practitioners located the problem within their institutions. 4 practitioners signaled their belief that their museums have a tendency to center "the white man's story" or "the Eurocentric experience" in their exhibits. One practitioner stated:

> People notice it if you maintain the Eurocentric, white privileged perspective of science and history. I think small things add up into an unwelcoming environment, like we have here. Going to a museum where you brush up against history and culture where you maintain the fiction that the white, Eurocentric experience is the neutral voice? Folks are gonna pick up on that and they do. They know. I mean, I think it's really only white people who think white people don't have a non-neutral voice. You know what I mean?

In their response, this practitioner called out the dominant epistemologies that are centered in the domains of science and history, pointing out that maintaining these epistemologies creates an "unwelcoming environment." They also suggested that their museum was one such unwelcoming environment. They further stated that it is fiction to position "the white, Eurocentric experience" as neutral, something they think learners will notice. They went on to say that it is only white people who believe that their voice is not neutral. A second practitioner shared the way in which "the white man's story" was centered at their museum.

I'm thinking about um, an exhibition that we opened a few years ago called [Exhibit X]. The exhibition was curated by the museum curators and there was very little community input. And the team itself did not reflect a diverse community. And so there were choices made throughout the entire exhibition. We're actually now trying to renovate this exhibition because people don't see themselves in it. It doesn't feel like the history of [City X] through the eyes of a lot of people who've been here for hundreds of years. It's the white man's story of [City X], which happens a lot here. A lot of individuals come to our exhibitions and they don't see themselves, they don't see their history there. We're all looking for, we're trying to find ourselves in these exhibitions, we're always trying to find that kind of personal connection. These exhibitions are supposed to be about our human history, and we're not seeing ourselves in it, and I think that that could feel really disorienting.

In this practitioner's account of the curation and renovation of an exhibition at their museum, they described the way in which Exhibit X was curated without the contribution of community stakeholders. They also observed that exhibit team members did not mirror their diverse community. They implied that this led to choices that the museum is now trying to address or reverse because the community does not see themselves reflected in the exhibition. They believe that the exhibition featured "the white man's story" of City X, which they remarked was a common occurrence at their museum. They said that people often come to their museum but do not see themselves in the exhibitions, which they believe could feel "really disorienting."

The remaining 4 practitioners shared their belief that their museums frame minoritized learners as monolithic, with all recognizing it as a problematic practice. 2 practitioners remarked on how easy it is to group learners into social categories with one practitioner commenting:

…it's very easy to slide into the mentality of, like, "Latinos like this" and "African Americans like this." You clearly don't want to stereotype into that although museums do it all the time. That's part of the problem. And at my museum too. We treat people like they're all the same based on the group we think they're in.

This practitioner acknowledged the challenge of rejecting stereotypes of minoritized learners. They asserted that one should not stereotype yet they find themselves in a context where

stereotyping is a frequent occurrence. They also stated that not only does their museum stereotype learners, they also treat them accordingly based on their perceptions of learners' group affiliation. A second practitioner shared their belief that a monolithic treatment of learners has the potential to impact science learning in a museum.

> I do think that our backgrounds shape our learning. And the diversity that makes each of us unique even within communities to which we belong is really important. And so I think the risk of designing museum exhibits and programs towards demographics is that sometimes, a lot of the times, and I've seen it, we forget that people are still individuals. So we make assumptions about how a person might receive or interact or experience based on the group with which they identify and don't leave enough room for the individual moment of moving that you can't design for. So it's really how do you design for, you know, the infinite combination of culture, experience, age, learning ability, language with limited time and budget. A lot of museums aren't doing it well and it's a problem because I really believe because I've seen it, it impacts people's science learning in a museum, for sure.

In examining this practitioner's statements, we see them first expressing a belief that learners' backgrounds influence their learning. They stated that there is diversity to be found even within communities, yet we often do not remember that learners are still individuals. Similar to the practitioner above, they mentioned their concern about the assumptions made about learners on the basis of their group identification. They then questioned how one designs for an "infinite combination" of demographic factors when restricted by time and funding. They voiced their belief that museums do not do this well and it is a problem as it impacts learning in museums.

I see important implications to practitioners' beliefs and understandings of Eurocentrism and monolithic treatments of minoritized learners. Similar to practitioners' belief that minoritized learners' relationships to particular domains are influenced by their ethnic, cultural, and racial backgrounds, these beliefs are generative in that they also create space for practitioners to develop, or further develop, critical and nuanced understandings of the epistemic heterogeneity embedded

in minoritized communities. I also revisit the research demonstrating that when practitioners believe matters of ethnicity, race, and culture to be inconsequential, they are more likely to opt out of incorporating culturally responsive lessons or instructional techniques in their practice (Bonilla-Silva, 2014; Gay & Howard, 2000). Here I speculate about the possibility that these beliefs may make practitioners more likely to opt in, leveraging pedagogical frameworks that explicitly foreground social differences, pulling on the cultural and intellectual values and practices of historically marginalized communities.

Culturally-Based Interventions

While this work places particular value on better understanding the beliefs of museum practitioners, it is also important to acknowledge that their ability to act on their beliefs may be enabled or constrained by the context of their institutions. Furthermore, while there is scholarship indicating that practitioners' (teachers) beliefs influence their practice, much of which has been reviewed herein, there is also work demonstrating that practitioners' reports of their beliefs are frequently decoupled from, and not reflected in, their instructional approaches and facilitation strategies. There is also work that questions the directionality of the relationship between practitioners' beliefs and their practice (Kynigos & Argyris, 2004; Zembylas, 2005). As a result of these competing and contradictory sets of evidence, it becomes necessary to combine my examination of practitioners' beliefs about the role of ethnicity, culture, and race on learning with an examination of the interventions they referenced in their responses, particularly interventions designed for historically marginalized learners.

Half of practitioners ($n = 12$; 8 white, 2 Black, 1 Latino, 1 white Hispanic) cited interventions that they, or their museums designed, with the explicit intent of engaging learners

from minoritized communities. These interventions included: 1) developing exhibitions or education programs for particular cultural communities in celebration of heritage days or heritage months; 2) inclusion or exclusion of specific artifacts or images intended to connect with minoritized learners (e.g. one practitioner cited the inclusion of an image of Mae Jemison in an exhibition about NASA); 3) foreign translations of label copy; 4) visitor studies centered on the needs and interests of minoritized learners; 5) workshops that teach minoritized learners "how to do a museum;" and 6) education program scholarships for minoritized learners.

Here I note how practitioners appeared to seek participation from minoritized learners in insubstantial ways, through interventions that work to sustain cultural homogeneity rather than thwart it. The inclusion of a handful of artifacts and images in an exhibition, foreign translations of label copy, workshops that "teach" minoritized learners how to use a museum, and scholarships do not provide opportunities for differentiated learning outcomes. Instead they continue to center dominant forms of knowing as a condition for participation. Visitor studies focused on existing museum goers also do not upset museums' normative social hierarchies around race, language, and class in that we know the average museum visitor, white or of color, has a six-figure annual income and holds multiple post-secondary degrees (Collaboration for Ongoing Visitor Experiences Studies, 2018). And last, hosting exhibitions and programs only on heritage days and heritage months for particular cultural communities positions these communities as contextually and temporally relevant while also reifying museums' normative practices of exhibiting culture.

With these interventions we see practitioners continued struggle to design experiences that provide opportunities for cross-cultural differences in sensemaking and meaning-making. This may reflect the many tensions and contradictions to be found in their beliefs around the role of

ethnicity, culture, and race in learning—e.g. that culture can be contextually salient or that there are culturally neutral topics. This may also be the result of their difficulties in seeing the cultural and intellectual tools and resources minoritized learners have. There is also the strong possibility that these interventions are impacted by museums' white-centered epistemologies, a worry discerningly raised by practitioners themselves. More than likely, these interventions are a manifestation of these issues combined. This lends credence to the increasing attention that is being given to re-examining the fundamentals of museum practice, particularly the pedagogical frameworks that underpin the design of their exhibitions and educational programming (Hooper-Greenhill, 1999; Garibay, 2009; Dawson, 2014). This work also suggests a need for continued examinations into practitioners' beliefs and the ways in which their beliefs are coupled or decoupled from their practice.

Discussion and Conclusion

This work has several limitations, limitations that give rise to potential new questions for the field. I restricted this study to science museum practitioners (driven by the notion that the type of museum practitioners worked in might have a profound influence on their epistemological orientation to the influence of ethnicity, culture, and race on learning), which raises questions about how practitioners' beliefs might be shaped by museum type (art museums versus zoos and aquaria vs children's museums), museum domains (art versus science vs history), and museum conditions (e.g. age, size, location). Although I interviewed practitioners across a variety of science museum types—e.g. natural history, science centers, nature museums—my sample was too small, and unequal across these sub-types, to draw conclusions about the differences that might exist within and across these practitioners as a direct result of their organizational affiliation. Furthermore, I

interviewed 1 to 3 practitioners per museum, which may have meant that I received a somewhat idiosyncratic picture of practitioners' beliefs.

Despite these limitations, these data shed light on the nature of museum practitioners' beliefs about the role of ethnicity, culture, and race on learners' sensemaking of their exhibitions and education programs. I identified many parallels in practitioners' beliefs, which can potentially be used to guide not only future research questions but also to inform interventions designed to support practitioners in their work engaging minoritized learners. The tensions in practitioners' beliefs—e.g. cultural neutrality, culture as contextually salient—align with the already-identified need for professional development among informal science educators (Bailey, 2006; Tran, 2006; Tran & King, 2007; Tran, 2008; Bevan & Xanthoudaki, 2008; Allen & Crowley, 2013), particularly as it regards meeting the differing needs and interests of ethnically, culturally, and racially diverse learners.

As a researcher with a particular interest in the relationship between teaching, learning, equity, and minoritized epistemologies, I see the themes that arose from these interviews as a manifestation of a profound tension that exists in publicly-private spaces like museums—the tension between visitation and participation, or perhaps more explicitly, the tension between being viewed as a visitor versus a participant. Relationships between individuals, or communities, and institutions are framed by normative social hierarchies characterized by "difference balances of power as well as differing degrees of access to the means of knowledge production and authority required to claim one's own experience as true, relevant, and valid" (Feinstein & Meshoulam, 2014). Museum practitioners can position themselves to assume the role of host, inviting minoritized learners to visit their institutions to learn the "right things" in the "right ways," or they

can create opportunities for learners to join, as equal participants, the broader public discourse on science, its implications, and its relevance (or irrelevance) to particular communities. However, in order to pursue the latter, there is a need for them to deeply reflect on their beliefs about teaching in museums, the purpose of teaching in museums, the domains they teach, and the learners they teach.

**Article 3: Racial, Ethnic, and Cultural Diversity—Museum Practitioners' Values
& Their Perceptions of Their Institutions' Values**

Introduction

Many educational institutions, across formal and informal settings as well as across primary, secondary, and post-secondary grades, have been charged with increasing the diversity of both their workforce and their intended learners. This social and political directive is in response to the growing ethnic, racial, cultural, and linguistic diversity of learners in the United States and the racially homogenous nature of education practitioners and leaders, most of whom are white, European Americans (Farrell & Medvedeva, 2010; Department of Education, 2016; Gay, 2013; Gay & Howard, 2000; Collaboration for Ongoing Visitor Experiences Studies, 2018). In an effort to respond to these pressures, educational institutions have leaned primarily on three key strategies: 1) creating diversity, inclusion, outreach, or community engagement/partnerships/initiatives departments, charged with the recruitment and retention of minoritized workers, learners, or both; 2) instating "inclusive" organizational policies that imply, or make explicit, that "diverse" perspectives are welcome and supported; and 3) designing interventions for minoritized learners such that it provides access or opportunity to domain- or setting-specific resources (e.g. makerspaces for minoritized youth whose goal is to provide access to STEM-related resources) (Ahmed, 2012; Nightingale & Mahal, 2012). Across many institutions, these strategies have not yielded a diversified workforce, nor have they led to meaningful partnerships and interactions with the minoritized learners they seek to engage (Martin, 1996; Kahn, 2000; Wentling, 2004; Janes, 2009; Kania & Kramer, 2011).

Museums are one such example of an institution that has struggled to attract and engage practitioners and learners from historically marginalized ethnic, racial, and cultural communities.

Despite their efforts, which typically include a combination of the three strategies above—if not all three, they often fail at engaging minoritized communities across multiple levels, which is demonstrated by the fact that African, Asian, Latino, and Native Americans are underrepresented among both their practitioners and their visitors (Farrell & Medvedeva, 2010; The Andrew W. Mellon Foundation, 2015; 2019; Collaboration for Ongoing Visitor Experiences Studies, 2018). In looking at museum practitioners more closely, while there is evidence to show that museum staff overall may have become more ethnically and racially diverse over the past four years, museum leadership—specifically those persons charged with the intellectual and educational mission of their museum—has not changed and has remained predominantly white (The Andrew W. Mellon Foundation, 2015; 2019).

Prior work offers a number of reasons as to why museums have largely been unable to reach minoritized communities. Some scholars argue that the barriers to entry are located within minoritized communities themselves, submitting that they lack both the values and knowledge needed to view museums as sites of education, study, or enjoyment (e.g. Falk, 1995; Ostrower, 2005; Wilkening & Chung, 2009). Recent scholarship has shifted away from such deficit-based lenses, with several notable pieces converging on the potential absence of core institutional values that align with practitioners' stated goals of diversifying their visitorship across ethnic, racial, and cultural lines (Nightingale & Sandell, 2012; Ash & Lombana, 2013; Dawson, 2014). This work raises questions about the role of values in museum settings, particularly the values of those designing and developing interventions for diverse publics. Given that social values profoundly influence an individual's appreciation, support, and action towards issues related to ethnic, racial, and cultural diversity (Rokeach, 1973), practitioners' values become a necessary site of empirical

investigation for those seeking to better understand how diversity work unfolds (or does not unfold) in museums.

I seek to answer questions related to museum practitioners' values by analyzing their discussions regarding the similarities and differences between how they value ethnic, racial, and cultural diversity and how their institution values diversity. I ask, in what ways do museum practitioners value ethnic, racial, and cultural diversity? And what are practitioners' perceptions of the value their institutions place (or do not place) on diversity? In answering these questions, I wish to surface not only the values that practitioners have about the role of social diversity within their museums—but also the areas of tension and symmetry between practitioners and their institutions. Understanding practitioners' values, and their perceptions of their institution's values, around issues of diversity may be key to understanding patterns of alignment and misalignment between museums' espoused values and their actions. I therefore attempt to contribute to the emerging work of characterizing practitioners' values with the hopes of providing the field with a small slice of the empirical evidence we need to reimagine how diversity work might/should proceed within museum environments. I begin with an overview of the prior work on values drawing from social psychology and museum studies. This overview also serves as the conceptual framework for this study. The analysis follows, leveraging data from interviews conducted with science museum practitioners (e.g. curators, exhibit designers, educators). I conclude with a discussion of the results.

Values

There is widespread scholarly acceptance of the importance of values and their relevance to individual, group, and organizational behavior (Allport, Vernon, & Lindzey, 1960; Rokeach,

1973; Steele, 1988; Schwartz, 1992; Dose, 1997; Rohan, 2000; Schwartz & Rubel, 2005). Social psychologists commonly interpret values as: 1) evaluative attitudes that influence an individual's perceptions of what is right or wrong or good or bad (Allport & Vernon, 1931); "…normative standards by which human beings are influenced by their choice among the alternative courses of action they perceive" (Jacob, Flink & Shuchman, 1962, p. 10); enduring beliefs that guide an individual's social attitudes and ideologies as well as their decisions and actions to pursue desired ends (Rokeach, 1973); and transituational goals, varying in importance, that serve as guiding principles in the life of an individual or a group (Schwartz, 1992). In their review of the literature on values, Schwartz and Bilsky (1987, p. 551) concluded that there are five common threads across the many definitions of values that the field of social psychology offers: "Values are (1) concepts or beliefs, (2) about desirable end states or behaviors, (3) that transcend specific situations, (4) guide selection or evaluation of behavior or events, and (5) are ordered by relative importance." For the analyses described in this piece, I draw from across these definitions to frame values as abstract, evaluative standards or principles that guide individuals' social attitudes about what "ought to be." I also bring focus to particular aspects of values including notions that:

- values can exist without support from cognitive information and without corresponding behaviors;
- there can, and often does, exist alignment and misalignment between individuals' espoused values and their enacted values and actions; and
- there are constraints placed on individuals' abilities to cohere their values with their actions, as a direct result of their (organizational/institutional) context (Allport & Vernon, 1931; Rokeach, 1973; Schwartz, 1992).

In this study, values are identified not only through "I value" or "the museum values" statements but also through practitioners' evaluative statements of what they, their colleagues, or their museums need to do or change in their pursuit of social diversity. I also take note of any critiques

or commentary practitioners made about what they, their colleagues, or their museums prioritize over diversity, priorities that seemingly frustrate practitioners' attempts to recruit socially diverse staff or meaningfully engage current and potential visitors from minoritized communities. Practitioners' responses to the following question were analyzed for the work detailed herein—"*What are the similarities and differences between how you value [ethnic, racial, and cultural] diversity and how the museum values [ethnic, racial, and cultural] diversity?"*

Empirical and theoretical work on values in museums from the perspective of practitioners, or other internal stakeholders, is both emergent and disparate (Lee, 2007; Davies, Paton, & O'Sullivan, 2013; Jung, 2016), with the majority of this work being conducted by scholars outside of the United States. Despite the differences in geographic context, this scholarship is relevant given that many museums from around the world are able to trace their origins back to what is often called "The Museum Age," a period of concentrated museum building throughout the late 19th and early 20th centuries (Bazin, 1967). Museums built at this time, including those in the United States, made explicit moves to emulate their European equivalents. This meant: 1) exhibiting foreign materials, which were deemed curious, exotic, or rare; 2) interpreting these materials with the colonial worldviews of the 19th century; and 3) encouraging middle and upper class communities to view these materials with exclusionary practices such as limiting attendance to small "learned" groups or requiring potential visitors to submit written museum admission applications or letters of request for entrance (Impey & MacGregor, 1985; Sheets-Pyenson, 1988).

The notion that Europeans, or any majority group, had the right to collect and classify the world has had, and continues to have, significant consequences for contemporary museum practice across the globe. In looking at natural history museums as an example, to this day the majority of

materials housed in these museums' collections—e.g. tribal African masks, textile arts from indigenous peoples of the Americas, personal ornaments (jewelry) from Southeast Asia—are a reflection of the heritage of non-Western and underrepresented communities (Wali, 2006). Additionally, despite ample criticism from numerous scholars and community groups (Karp & Levine, 1991; Kirshenblatt-Gimblett, 1996; Starn, 2005), they continue to add to their collection of cultural artifacts, frequently citing that these materials offer answers about the past that cannot be found elsewhere. They also contend that they are able to better care for and preserve these materials than those communities to which these artifacts belong (Haas, 1994; Wali, 2006). Present-day examples of ownership disputes around artifacts include the Greek government's request for the return of the Parthenon Marbles (declined by the British Museum); the Peruvian government's long-standing request for the return of 4,000 artifacts taken from Machu Picchu in the early 20th century and donated to Yale University's Peabody Museum (Yale returned the artifacts in 2012 with the stipulation they would continue to have a hand in the stewardship of these materials); and the Nigerian government's petition for the return of the Benin Bronzes, a collection of over 1,000 metal plaques and sculptures that decorated the royal palace of the Kingdom of Benin, which is now present-day Nigeria (the Musee du Quai Branly in Paris has returned 26 artifacts while the British Museum is currently considering "loaning" the bronzes they possess to Nigeria on a temporary basis) (NPR, 2011; CNN, 2018; Reuters, 2018; 2019). Nigeria's case is particularly striking as it is estimated that 90% of sub-Saharan Africa's cultural artifacts—e.g. statues, thrones, masks, manuscripts—are housed in museums across Europe and the United States (The Guardian, 2018).

In addition to the oft-contentious debates over who has the right, and the means, to claim possession of a community's (typically non-western, typically historically marginalized) cultural materials, it has also remained the norm for museums, across all types (e.g. art museums, science centers, nature museums) to exclude minoritized and historically marginalized groups from the decision-making around the curation and treatment of their communities' artifacts (Haas, 1994; Kahn, 2000). This has resulted in exhibitions that position the curatorial voice at the center, that do not trouble the portrayal of minoritized communities, and do not interrogate the role of museums in the project of European political domination. Given that museums have long-struggled with establishing meaningful partnerships with minoritized communities and have grappled with re-examining the underlying principles of their practice, this has also resulted in the near total omission of underrepresented and non-western perspectives in museum exhibitions (Hooper-Greenhill, 1999; Dawson, 2014). These shared histories of, and consequences for, modern museums make a review of the museum literature from other geographic contexts a fruitful endeavor.

As stated, the literature on museum practitioners' values is limited. However, the scholarship that does exist offers conceptual tools for framing and interpreting practitioners' words and deeds. With an interest in identifying the values that underpin the different priorities museums have, Davies, Paton & O'Sullivan (2013) developed the Museum Values Framework (MVF), a theoretical tool for understanding organizational culture, or values, in museums. MVF suggests that museums have four primary modes, which they navigate in fluid and dynamic ways, although often without purpose or intent. The first mode, described as the club mode, signals that museums believe their main mission is to collect and preserve objects for like-minded individuals. Temple,

the second mode, indicates that museums prioritize the study and scholarly dissemination of the objects they collect and preserve to a broader, "learned" community. The third mode, visitor attraction, highlights the moments when museums value visitors' needs over their knowledge and authority. Forum, the fourth mode, emphasizes the value that museums see in using their space to debate social issues and to create meaning from their collections. Davies, Paton & O'Sullivan (2013) put forward that all modes are present in museums although the degree to which each mode is foregrounded at any given time depends on the composition of individual, group, and organizational values within an institution. In a critique of the values of modern art museums, particularly those in Britain, Hooper-Greenhill (2000) troubles the transmission model of communication typically used by museums, describing it as a "linear process of information transfer from an authoritative source to an uninformed receiver. Knowledge is seen as objective, singular, and value-free" (p. 15). Stating that this approach to communication is severely limited, she suggests museums acknowledge audiences as active, complex, cultural and political participants in their learning. In doing this work, she argues that museums, and the practitioners in them, will need to develop new professional values and corresponding strategies that she hopes results in new professional roles, an acknowledgement of audiences who come from "different interpretive communities," the use of non-curatorial voices and perspectives, and the development of new narratives that are not informed by European traditions. In an exploration of the challenges inherent in the work of integrating issues of equality and diversity into museum policies, Nightingale and Mahal (2012) interviewed practitioners in different roles across a variety of local, regional, and national museums in both the United States and the United Kingdom. Their interviews revealed that while social diversity among practitioners is key, equally (or perhaps

more) critical, is leadership that values contribution from others and supports practitioners in taking ownership of diversity and equality initiatives. When leadership do not value, and are not responsive to, the ideas and concerns of staff from different departments and across varying levels of responsibility, there is little coherence across the museum and barriers to social progress remain. Nightingale and Mahal further found that strategy groups or committees, rather than acting on values, often encourage complacency as objectives are rarely identified or integrated into museums' overarching strategic plans. And finally, in an evaluation exploring the value and impact of museums from the perspective of both the Australian public and practitioners working across history, natural history, and science museums (Scott, 2006), practitioners were asked: 1) "In your opinion, what are the long-term impacts of museums on communities?" 2) "What makes the impact of museums different to other institutions and services?" 3) "What evidence do we have that the community values museums?" Practitioners' answers were wide-ranging but the author identified several themes that are relevant to this work, a few of which I highlight here. Practitioners' responses revealed that they valued their museums' ability "to [extend] and [expand] a community's view of itself as it learns more about its own history, heritage and sense of place," to provide a space for "migrant communities [to] experience pride, confidence and a greater sense of belonging to the wider community through presenting their stories in museums," and "to contribute to social inclusion by engaging under-represented minority groups." In contrast, the Australian public placed greater emphasis on museums as a leisure attraction, also prioritizing museums' ability to provide them with "access to the past" (p. 53-54, p. 61-64, p. 66). While there were many points of agreement between the public and practitioners, these key differences in their responses prompted the author to ask—whose values are being applied in Australian museums? Note that

across this work, although sometimes implicit, is a recognition that value alignment and misalignment can and does occur among and between museum practitioners, museum leadership, and museum visitors (both potential and existing). Much of this work also surfaces that effecting change is only possible if 1) new values have been introduced and/or when 2) values align.

While this literature has advanced our knowledge of how we might consider the role, and interaction, of values in museum contexts, this literature is nascent and raises more questions than answers. For example, what are the range of values practitioners have about ethnic, racial, and cultural diversity? Are these values consistent with their, or their institution's, stated goal of diversifying their staff and their visitorship? In what ways do practitioners' values overlap? How do they differ? And if they differ, what tensions does this produce? If we find a mismatch in values among and between museum practitioners, museum leadership, and museum visitors, how do we work towards value alignment? Which values should be foregrounded, and which should be backgrounded, if any? Understanding the importance of values in pursuing goals as well as the impact values have on effecting change, I attempt to examine the value museum practitioners' place on racial, ethnic, and cultural diversity as well as their perceptions of the value their institutions place on diversity. I do so with the hope of making visible practitioners' different priorities, contributing to our knowledge of the mechanisms that facilitate or frustrate diversity efforts within museum contexts.

Methods & Participants

I used a comparative case study design with semi-structured, qualitative interview methods to explore practitioners' values, and their perception of their institution's values, regarding ethnic, racial, and cultural diversity. Interviews were conducted between July and October of 2017. All

interviews were audio recorded and transcribed verbatim for analysis. Each practitioner completed a 60- to 90-minute semi-structured telephone interview. Semi-structured interviews allowed me to investigate practitioners' personal accounts of their values, and their perception of their institution's values, through the lens of practitioners' own terms (Miles & Huberman, 1994). Interviews proceeded through eight sections focusing on (1) the occupational background of practitioners, (2) their museum's existing publics, (3) their museum's desired publics (typically minoritized communities), (4) their beliefs about racial, ethnic, and cultural diversity and learning, (5) their museum's community-partnershipping practices, (6) their exhibition or education design practices and processes, (7) the institutional factors practitioners believed facilitated or frustrated their museum's diversity efforts, and (8) the similarities and differences between practitioners' stance on diversity work and their museum's stance. For this paper, I examined the responses practitioners gave to the following question from the eighth and final section of the interview protocol: "*What are the similarities and differences between how you value [ethnic, racial, and cultural] diversity and how the museum values [ethnic, racial, and cultural] diversity?"* In addition to the responses practitioners gave to this question, I also reviewed the remainder of practitioners' answers throughout their interviews in order to include, and code, any statements they made that directly, or indirectly, addressed the themes embedded in this question.

I used a combination of snowball and purposive sampling (Weiss, 1994) to recruit museum practitioners for this study, relying primarily on referrals and word-of-mouth to build a sample. The primary eligibility requirement I imposed is that practitioners needed to occupy positions that impact the design of public experiences at their institution in some way. These public experiences of course include the exhibitions themselves but also include any events and programs (e.g. field

trips, lectures, docent tours) practitioners designed with community engagement in mind. I therefore placed emphasis on speaking with persons involved in the design and development of exhibitions and educational programming, persons who were responsible for the intellectual and educational mission of their institutions, and/or persons who had been charged with diversifying their museum's audiences. My hope was that the use of snowball sampling would help develop rapport with practitioners, as they would have heard of my study through a friend, acquaintance, or colleague (Small, 2009; Young Jr., 2004). I also shared my professional background with all of the practitioners I interviewed in order to establish trust, letting them know that I worked in a museum setting myself for six years prior to pursuing my graduate studies. I viewed rapport as critical to my study given that issues related to race, culture, and ethnicity are often regarded as sensitive topics and I wished to make practitioners feel comfortable being open, honest, and transparent when answering the questions I asked. I was also hopeful that my use of purposive sampling would allow me to develop a varied participant pool with museum practitioners in different museums, across different departments, and in different positions of power and authority. My goal was to increase opportunities for cross-case analyses, uncovering practitioners' beliefs, attitudes, and values as well as perceptual patterns of processes and interactions that were not unique to any particular museum but were instead the result of local conditions (Miles & Huberman, 1994; Morrill & Fine, 1997).

The final sample included 26 science museum practitioners from 14 institutions across 11 states. Practitioners worked in a variety of science museum settings, or institution types, including: 11 natural history museums, 1 natural science museum, 7 science centers, 3 science and technology centers, and 4 science museums. All practitioners worked in museums located in major urban areas

across the United States with 6 institutions in the Northeast, 9 in the Midwest, 3 in the South, and

8 in the West (U.S. Census Bureau, Geography Division, 2018). Practitioners worked across the

exhibition, education, science/research/collections, and audience research departments of their

institutions in a variety of positions. In the end, I interviewed 6 vice presidents/chief officers, 4

scientists/curators, 4 directors, 7 managers, 4 exhibit developers, and 4 coordinators (three

practitioners held joint departmental appointments and have been double counted due to their dual

roles, which are reflected in these numbers). Note that I categorized both the job titles and

departments practitioners provided to match these positions as closely as possible. While many

practitioners held titles, and worked in departments, that are common across the museum field

(such as the ones listed), some worked in positions and in departments that might identify them if

published. Therefore, in order to maintain their anonymity, in addition to scrubbing their job titles

and departments, I have chosen to avoid listing the names of their institutions and will not provide

more detailed information about their geographic locations. A little over half of practitioners held

positions in their museum's education department (n = 15, ~58%). More than half of practitioners

had occupied their current positions for 5 years of less (n = 16, ~62%), although most indicated

that they had professional experience in other museum settings prior to their current roles (n = 17,

~65%). All practitioners had a four-year degree with the majority having completed some graduate

work or holding Masters/Professional degrees or doctoral degrees (PhD and/or EdD) (n = 20,

~77%). With regards to age, approximately half of practitioners indicated that they were in their

20s and 30s (n = 14, ~54%), while the other half were in their 40s, 50s, and 60s (n = 12, ~46%).

With regard to gender, the majority of practitioners identified as female (n = 18, ~70%). In asking

practitioners to self-report their race/ethnicity, the majority identified as White/Caucasian (n = 16,

~62%), while the remainder of the practitioners identified as White Hispanic, African American/Black, Asian, Latino/a, and Mixed (n = 10, ~38%). See Tables 7 – 10 below.

Race/Ethnicity (self-report)	Number
White/Caucasian	16
White, Hispanic	3
Black	3
Latino/a	2
Asian	1
Mixed	1

Gender (self-report)	Number
Male	8
Female	18

Age	Number
20s	4
30s	10
40s	7
50s	3
60s	2

Level of Education	Number
Four-year degree	6
Some graduate work	2
Masters or Professional Degree	13
Doctoral Degree (PhD or EdD)	5

Table 7. Participant demographics (race / ethnicity, gender, age, level of education). *N* = 26.

	Exhibitions	Education	Audience Research	Science/Collections/ Research
Vice President and/or Chief Officer	3	2		1
Scientist, Curator		1		3
Director	1	2	1	
Manager		6	1	
Exhibit Developer	3	1		
Coordinator		3		1

Table 8. Participant positions / roles across departments (exhibitions, education, audience research, and science, collections and/or research. *N* = 26 although table reflects joint departmental appointments of three participants.

Number of Years In Current Position	Number
3 months to 5 years	16
6 to 10 years	6
11 to 15 years	2
16 to 20 years	N/A
20+ years	2

Prior Experience in Another Museum	Number
Yes	17
No	7
Unanswered	2

Table 9. Number of years participants have occupied their current positions as well as whether they have had prior experience working for another museum. *N* = 26.

Museum/Institution Type (self-report)	Number	Regional Location	Number
Natural History Museum	11	Northeast	6
Natural Science Museum	1	Midwest	9
Science Center	7	South	3
Science and Technology Center	3	West	8
Science Museum	4		

Table 10. Participants' descriptors of the "type" of museum in which they work along with regional location of museums. $N = 26$.

Analytical Procedures

I analyzed the data generated from my interviews with museum practitioners by open coding transcripts while using the constant comparative method, similar to a grounded theory approach (Charmaz, 2001; Strauss & Corbin, 1998; Glaser & Strauss, 2009) but informed by theories on values drawn from social psychology and museum studies. My first pass through the data was inductive in that I used the events in the data to determine what themes were making themselves known. I then compared the themes that emerged across the 26 transcripts, selecting a set of themes to apply to the entirety of the data set. In selecting themes, I used my conceptual framework to group themes together into categories including (but not limited to)—"practitioners' politics and identities," "museums' conservative politics," "valuing ethnic, racial, and cultural diversity among colleagues and staff," and "diversity as a tool for revenue." As I coded the complete data set for these themes, I wrote analytic memos, which incorporated interview excerpts to serve as exemplars for each theme, many of which have been featured in the analysis section of this paper. I then grouped these analytic memos by theme and together with the coded transcripts, they allowed me to generate a detailed summary of each theme identified.

Note that during the course of coding, I made the decision to remove three transcripts from this analysis. I did this because I introduced the question under study after conducting my first three interviews, having received a suggestion from a practitioner to do so. I agreed as I believed

this question provided both myself and practitioners with the opportunity to deeply consider the extent to which practitioners are agents of organizations, working to achieve not just their own personal objectives but also organizational objectives (Scott et al., 2000, p. 2). Although the themes I identify in this paper were somewhat present in the three transcripts I removed, it was difficult to make a fair comparison between the three practitioners who were not asked the question under study and the remaining 23 who were asked. Accordingly, the themes presented in the analysis section reflect the responses of 23 practitioners, rather than 26.

Analysis

All 23 of the museum practitioners whose responses I analyzed for this study stated that they valued ethnic, racial, and cultural diversity. While there is little reason to believe that practitioners were untruthful in their answers, I do note that it is somewhat unlikely that any individual would state that they do not value diversity when directly asked such a question. Of the 23 practitioners, 15 indicated that their museum also valued diversity. Of the remaining 7 practitioners, 5 said that their institutions did not value diversity while the other 2 said that they were unsure. Although all practitioners reported that they valued diversity, they varied in what they felt needed to be changed in their pursuit of socially diverse staff and visitors. Some practitioners emphasized a need to understand the experiences of minoritized communities in order to best "accommodate" them. Others shared how much they value institutional diversity, expressing frustration and discouragement at the lack of diversity among their colleagues and among leadership staff. Practitioners also differed in their perceptions of what their museums valued, or prioritized, over diversity. For example, some felt that their institutions preferred to stay true to their conservative politics while other practitioners stated that their museum's interest was

in representation, not meaningful engagement. Still others perceived that their museum's primary focus was on funding from donors as well as revenue generated from visitors, not on diversity. In this section, I present the themes listed in Table 11, which emerged from practitioners' responses to the question: "*What are the similarities and differences between how you value [ethnic, racial, and cultural] diversity and how the museum values [ethnic, racial, and cultural] diversity?"*

Themes	Number of Museum Practitioners	Percentage of Museum Practitioners
Do museums value ethnic, racial, and cultural diversity?		
Yes, museums value diversity	15	65.21%
No, museums do not value diversity	5	21.74%
Unsure whether museums value diversity	2	8.70%
Do practitioners value ethnic, racial, and cultural diversity?		
Yes, practitioners value diversity	23	100%
No, practitioners do not value diversity	0	0%
Practitioners' values		
Understanding the needs and experiences of minoritized communities	8	34.78%
Social diversity among colleagues and leadership staff	8	34.78%
Social and political identities	5	21.74%
Museums' values (as perceived by practitioners)		
Do not value social diversity among colleagues, leadership, or overall staff	6	26.09%
Representational optics	6	26.09%
Generating revenue	5	21.74%
Conservative politics	5	21.74%

Table 11. Practitioners' values, and their perceptions of their institutions' values, regarding ethnic, cultural, and racial diversity. $N = 23$.

Ethnic, Racial, and Cultural Diversity Among Colleagues and Leadership Staff

Eight practitioners (~35%) indicated that they value ethnic, racial, and cultural diversity among colleagues and leadership staff while six practitioners (~26%) stated that this was not a

value that their museum shared. One practitioner positioned their co-workers' backgrounds as a resource for partnering with minoritized communities stating, "I try to follow the lead of my colleagues who are coming from the communities [Native, Latino, and Black communities] we're hoping to be able to work with more closely." A second practitioner observed that while their institution has racial and ethnic diversity among their staff, these staff are disproportionately located within particular departments: "…the diversity that we tend to see is in the lower ranks and the lower paid positions. And I think it would be great if it were different and if that diversity were threaded through every section of the museum and every pay grade…but, it's not, that's not something that's easy to change." Most other practitioners pointed out the tensions that this mismatch in values creates, with one practitioner saying: "I think about diversity often. I think museum leadership have not. And I think the lack of diversity at the leadership level really kind of means that the institution's leadership lacks that diversity perspective." A second practitioner stated that their values around diversity were not reflected in their museum, sharing their disappointment with the composition of their museum's leadership team by pointing out that their friend had been the sole black person on the exhibits team for a period of a year.

> In my life, as a human, I really value diversity in experiences and the people I surround myself with. I don't get that feeling at all from my workplace. And it's really discouraging to hear my friend, who is black and works in exhibits at the executive level, like the top level of the museum, at one point for about a year he was the only black guy up there. And it's awful to hear how that makes him feel. He feels like, I'm all alone and I'm tired of being like that token opinion in exhibits.

While practitioners frequently coupled their statements on valuing diversity with a statement regarding the lack of diversity within their institution, only two practitioners, one who identified as a scientist while the other identified as a curator, provided an example of a concrete course of action they took to hire practitioners from minoritized communities. One shared, "…we

reach out to a really, really broad audiences when we, when we advertise so that it isn't sort of the traditional Ivy League audiences that hear about our department's positions" while the other disclosed, "…we now ask every person that serves as a search committee member…to go to an implicit bias training." Both practitioners indicated that these strategies were in place in an effort to diversify their applicant pool.

Interestingly, across practitioners, there was little to no discussion regarding what role human resources played or could play in addressing their concerns about the lack of staff diversity. Both the curator and scientist above emphasized that theirs were departmental initiatives, not museum-wide strategies. Practitioners also did not raise any concerns about turnover or retention of staff of color. I also noticed no remarks made about the possibility of promoting staff of color to leadership teams. This is notable as the majority of the practitioners I interviewed were at the managerial level or higher, meaning that they were able to influence hiring or promotional practices (at the very least, their own). Although practitioners stated that they valued diversity among staff and leadership, there did not appear to be a heightened sense of urgency around changing hiring practices across the institution nor did it appear that, outside of the curator and scientist, practitioners were leveraging recruitment strategies that might reach potential staff from minoritized communities. The lack of organizational efforts mentioned to hire ethnically, racially and culturally diverse staff suggests a lack of alignment between practitioners' espoused values and their enacted values.

Understanding the Needs and Experiences of Minoritized Communities versus Representational Optics

Eight practitioners (~35%) shared that they value understanding the needs and experiences of minoritized communities while six practitioners (~26%) stated that their museums value

representational optics over meaningful engagement. The exchange below best captured both of these themes.

> **Interviewer:** What are the similarities and differences between how you value diversity and how the museum values diversity?
> **Practitioner:** It depends, sometimes I feel like just getting Latinos to show up and some African Americans to show up to the museum and see them in pictures and see them in your visitor surveys, see them as numbers and faces is one thing, but you don't know what kind of experience they're having and how much retention you have with people of these ethnic backgrounds. And, why they feel like the museum isn't for them. Or, why they are not gonna plan to come back. Those are things that I feel is addressing diversity.
> **Interviewer:** Mm-hmm.
> **Practitioner:** Not just, hey, we have 40% of our visitors are Latinos. Like, that is not really an impactful number to me. I think it's just a reflection of, we're in [City X] and by default, 40% of our visitors are Latino. Uh, that's what that means to me. It's not like, hey, 40% of our visitors are Latino, and this is how we accommodate this community and this is how we engage with this community.
> **Interviewer:** Mm-hmm.
> **Practitioner:** But they give themselves, the museum gives themselves a pat on the back because of these numbers, but, um, again, they're not really engaging with the local community, and they don't have any idea, or from my standpoint don't care as much, about what kind of experience everybody's having. Non-English speakers, especially, are having. And, and how the African American community is relating to the museum, and what their experience is, and how to make it more relevant to African Americans.
> **Interviewer:** Mm-hmm.
> **Practitioner:** That, I don't know the answer to. But I'm interested. It's important if we want to be more inclusive. If it's, like an, an actual value. But they like numbers. It looks good to them. Or maybe they, they're, they are thinking it looks good to other people.

In the excerpt above, this practitioner troubled the idea that the presence of minoritized learners equates meaningful engagement stating "…getting Latinos…and some African Americans to show up…is one thing, but you don't know what kind of experience they're having…" They then explained that for them, addressing diversity means not only understanding minoritized learners' experiences but also knowing why these communities feel "the museum isn't for them" and why they often do not return. They indicated that having a large percentage of minoritized learners is

not impactful to them (having personal knowledge of this museum's demographics, 40% is a greatly exaggerated figure—I believe this practitioner is using hyperbole to underscore their point), feeling that it is a reflection of the geographic location of their museum not a reflection of any additional effort the institution has undertaken to meet the needs of minoritized communities. They stated that their museum "gives themselves a pat on the back because of these numbers," even in the face of not knowing whether or not the museum is relevant for minoritized visitors. They admitted that they themselves do not know the answer as to whether or not the museum is relevant to these communities but feel that it is important if social diversity is to be upheld as a real value of the institution. They ended by suggesting that their museum prefers to focus on numbers, enjoying the representational optics they provide to external parties.

In this practitioner's response, quite reflective of the content found across the responses of the other practitioners referenced in this section, we see them surfacing a critical tension with regards to values. Shared values are not equivalent to shared priorities. Shared values also do not signify shared reasons for those values. For many practitioners, social diversity is a value they share with their institutions. However, while social diversity appears to be sufficient as a value on its own for institutions, many practitioners felt it was insufficient if not paired with certain forms of inclusion (e.g. feelings of welcome, relevance). Here we are able to note the importance of making explicit the rationales that fuel institutional diversity efforts. If these efforts are motivated solely by economic concerns, representational optics is the likely outcome. This is not to say that motivations rooted in social imperatives such as inclusion, tolerance and acceptance, and righting historical injustices guarantee a different result (Ahmed, 2012). However, there is an obvious need for practitioners, at least those interviewed for this work, to clearly articulate not only their values

but their rationales for those values and the means by which they believe their values can be realized. Through this articulation, practitioners can make visible the ways in which their priorities overlap, and importantly, diverge.

Practitioners' Social and Political Identities versus Museums' Conservative Politics

Five practitioners (~22%) indicated that they value their social and political identities, using them to either make sense of their diversity work or to effect incremental change in their museum. In contrast, five practitioners (~22%) also stated that their museums frequently demonstrate the extent to which they value their conservative politics such that it informs decisions ranging from exhibition content to fundraising. One practitioner shared:

> …because I am from, you know, a non-dominant population, minority communities, and I'm female and I'm black and whatever…because I have lived the minority experience, I think I just have awareness that many people who've lived minority experiences do. It informs my everyday living and my everyday choices…While I obviously place great value on my identities and my experiences, I also recognize fully that, um, there is a diversity of diverse experiences and contexts that I know nothing about so I'm constantly forcing myself to challenge my assumptions and to identify my biases and do the work and, you know, fail at it and figure it out and try to get back on. But to do the work, to be mindful and present about issues of diversity in my work.

Here we see this practitioner reflecting critically on her positionality, identifying her social location across gender and race and making connections to how her lived experiences provides her with an "awareness" that informs her daily life. She went on to say that although she greatly values her identities and experiences, she understands that similarly minoritized others might have different experiences in different contexts so she puts in the work to challenge her assumptions and biases. She stated that she tries "to be mindful and present about issues of diversity" in her work. A second practitioner suggested that their museum's stance on diversity may have shifted

during the course of his career from a "squishy four" to a 7.5 out of ten but that the museum was

still inclined to cater to conservative donors and audience members.

> I would say I am, on a scale of one to ten, ten being the most passionate about being inclusive, uh, of diverse, uh, of diversity in general, uh, I, I'm, I would put myself at probably a 9.9. It's obviously a value of mine. When I first started working for this museum, I would say that the museum as a whole was probably at a squishy four. Um, but I would say that currently they're probably at a 7.5. But I will say that conservative politics are at play in our country and in [state X]. It's definitely at play in this museum and some of the donors, we have to, we have to balance some things. And in the same way that as a science museum, you know, we have to be very, uh, diligent, yet cautious about, you know, we present the theory of evolution. We talk about hydraulic fracturing. We talk about climate change. But we have to be very intentional in how we're doing it, in making sure that we're not alienating potential or current donors or our audience members as well.

In examining this practitioner's response, they conveyed their "passion" for diversity and

inclusivity. They indicated that their museum has increased the value they placed on diversity over

time but that the museum's adherence to conservative politics, both their own and that of their

donors and local visitors, impacted the way in which the institution approached exhibitions that

cover the theory of evolution. They stated that they have to be "intentional" in order to avoid

alienating donors or visitors. In line with this, a third practitioner also highlighted their museum's

conservative tendencies while contrasting it with their own progressive orientation saying:

> …my personal values are, I mean not to be glib but like probably slightly to the left of Lenin. Like, I'm very progressive. I identify as a very progressive person and, you know, the conversations I engage with in around diversity and inclusion are, you know, really thinking about, you know, in certain ways feminism and, creating a more inclusive society, and the politics around that. But I understand that the institution, you know, is the institution and it, it is what it is. Museums value, my museum values, its conservative traditions. It's a system that, you know, museums are designed to maintain and hold things. They're not spaces of radical change. Or change. So, you know, I think it's helpful for me to be able to bring my knowledge and to bring my experiences and to bring my perspective to an institution to hopefully inch it in a direction that I think helps get it to a place that we all want to be in, which is a place for, making it a space for everyone. You have to, like,

acknowledge the institution for what it is and, and work a little day, a little bit every day at making it better. That's how I approach that work.

Similar to the first practitioner, this practitioner indexed their identity, specifically their political identity calling themselves "left of Lenin" and "a very progressive person." They shared that they engage in conversations about diversity and inclusion, implying that they pull from feminism to think about inclusivity. They went on to say that museums value their "conservative traditions" and have been designed to "maintain and hold things." They then stated that museums are not spaces for radical change but that they hope to use their expertise, lived experiences, and perspectives to move the institution toward being "a space for everyone."

For the practitioners who reflected on their own social and political identities, contrasting it with their museum's conservative leanings, deep contextual reasoning around why their institutions make decisions in the way that they do appeared to be more frequent. These practitioners were more apt to explicitly frame the obstacles and barriers they experienced when doing diversity work as originating from their museums' conservative politics; the racial, ethnic, and cultural homogeneity of their administration; and the bureaucratic processes and procedures involved in pushing diversity initiatives forward. These practitioners also demonstrated a pragmatic approach to their work, acknowledging that change takes time, particular perspectives, and compromise (e.g. softening discussions about the theory of evolution). Given that critical engagement with identities, both others and their own, has been shown to create openings for practitioners to consider the worldviews and beliefs of others (Banks, 1994; Bennett, 1993; Cochran-Smith, 1995; Derman-Sparks & Phillips, 1997; Lawrence & Tatum, 1997), these findings provide fodder for the applicability of this work to considerations of the worldviews and beliefs of institutions. In addition to further articulating their values, practitioners may find it a fruitful

exercise to surface the institutional factors that may hinder or advance their diversity work. In doing so, the possibility exists that they may develop new understandings of the strategies they need to deploy to navigate said factors or to dismantle them.

Social Diversity as a Tool for Generating Revenue

Five practitioners (~22%) made statements reflecting their perceptions that their museum valued diversity primarily as a means to generate revenue for their institution. One practitioner stated, "Including diversity in our budgeting choices and policy decisions shouldn't mean we're using diversity to make money. It should mean we're investing in diversity projects." They went on to say that staff were suspicious when the museum signaled that it was incorporating diversity into their strategic plan as they felt it was not well-intentioned. In line with this, a second practitioner also shared their concerns about their institution's reasons for valuing diversity:

> I guess I'm cynical because I think that diversity at the museum is valued largely based on how much funding it can get behind diversity initiatives. Um, and it is, my cynical view is that it is seen as a way of building support and fundraising base for the broader mission of the museum, whereas my own personal view is that, you know, there is a, a long history of injustice around racial and ethnic diversity in this country that, you know, all institutions need to be working to correct. At both the hiring level, at the service level, at the, you know, advocacy level, across other institutions, and building networks that bring these hidden injustices that still exist within our community to light. I don't see that as being anywhere within the rhetoric or language at the museum.

Here this practitioner made explicit that the most significant difference between their values and their museum's values is in the way their museum prioritizes diversity initiatives as a means for fundraising. They indicated that those funds are raised to support "the broader mission of the museum," implying that funds raised for diversity initiatives may not necessarily be used to directly support said initiatives or that diversity initiatives were used to build a broader base of donors who can later be asked to support projects unrelated to diversity. They asserted their views

that institutions need to work to correct, and shine a light on, the "long history of injustice around racial and ethnic diversity in this country." They stated that they did not see any rhetoric or language around issues of injustice within their institution.

In addition to their cynicism and suspicions of malintent, three practitioners expressed their frustration at their museums' attempts to populate their education programs with participants from affluent families with their explicit use of social diversity as a marketing tactic. One practitioner shared:

> Well, this question makes me think about our summer camp. I think that's like an issue that kind of rubs me the wrong way, because like, at [Museum X], that is clearly like a revenue-generating experience. It's really, it's not open to all kids because it is really, it's like very expensive care for a week. But part of how they market it is that they provide scholarships to some kids in order to say it's a diverse camp. Then they try to fill it mostly with people who aren't diverse, who can pay to attend. It's messed up. They're literally using the kids to make it seem like it's an experience that it's not in order to make money.

In examining this practitioner's response, they expressed that they were rubbed the wrong way by their museum's summer camp, saying it is "a revenue-generating experience." They revealed that part of the marketing strategy for the camp was to provide scholarships to "diverse" children so that they may be used to frame the camp as a "diverse" experience for children from families who are able to afford the camp fee. They signaled their concern with this tactic, stating that it was "messed up" and that children are being used to create a false impression of the camp with the express intent of making money. In line with this, another practitioner shared their department's practice of treating program participants differently from museum visitors. They stated: "From an education standpoint, I feel that my views on diversity are pretty well aligned with my department's views. We separate program participants and guests. Which is to say we know we need to make an effort to reach [minoritized] audiences. We understand that we need to provide

resources for those audiences and that we need to be actively engaging those audiences and not be passive."

With these excerpts, we again see the conflict that occurs and the tensions practitioners experience when diversity initiatives are valued only for their capacity to increase revenue. In the case of the summer camp, we explicitly see how either images of, or the very presence of, a few minoritized learners was being used to not only create a false impression of the summer camp experience but also to further cater to white learners rather than learners of color. This speaks to a practitioner's earlier point of museums using social diversity to generate revenue rather than reinvesting it into existing or new diversity projects. Furthermore, using an economic lens to make sense of the participation of minoritized communities obscures practitioners' ability to understand that there are "a diversity of diverse experiences and contexts" (as stated by another practitioner above), which then calls into question their ability to design interventions that make connections to the cultural and intellectual values and practices of the minoritized communities they hope to engage.

Museum Does Not Value Ethnic, Racial, and Cultural Diversity; Unsure Whether Museum Values Diversity

As previously mentioned, five practitioners (~22%) stated that their museums did not value ethnic, racial, or cultural diversity. Practitioners made this evident with comments such as "…the museum does the barebones minimum because they don't care about diversity;" "…from the institution standpoint, they don't pay attention to cultural diversity;" and "…well, it's just my perception of how the institution values diversity but it's clear that it carries very little weight. It's not valued." In addition to these practitioners, two (~9%) shared that they were unsure whether or not their museum valued diversity. One practitioner's stated: "I think, I don't, I don't know if the

museum values diversity. I really don't." When I responded by asking if they might say more, they further reiterated their uncertainty and told me they did not know what to say or how to describe the museum's values. In interpreting this practitioner's response, it was unclear whether they were truly uncertain or whether they did not want to say anything negative that might implicate their museum or themselves. The second practitioner's response follows:

> I don't know if I know how the institution values diversity. That, that can be a problem, right? That could a barrier for, for me to do my job correctly. They probably want me to assume they value diversity. But I don't think there's a diversity statement and I know other institutions have that. I think that that would be a good start. But I don't know if I can fully answer that question.

For this practitioner, not only were they unsure whether their museum valued diversity, they also cited the potential problems that their lack of certainty might present when doing their job. They suggested that their institution likely wants their staff to believe that they value diversity. However, they shared that their museum lacks a diversity statement, which they think might be a good starting place given that other institutions have such statements. They ended by reasserting their inability to state with confidence that their museum values diversity.

Practitioners not knowing and/or being unsure whether or not their museums value diversity can be connected to a number of factors. Key, however, is that calls for diversity are often problematic because diversity is an ill-defined and nebulous concept that does not require individuals or groups to take action nor does it seem to necessarily connect with any specific principles related to equity, justice or care. While diversity acknowledges difference, it does not acknowledge the kinds of differences that are needed and valued, nor does it acknowledge the obstacles that exist in realizing the too-often-implicit goals of diversity work. Diversity is only one factor that contributes to the larger framework of any institution. In the case of museums, their

historical and present-day practices of inclusion and exclusion, both internal (with staff) and external (with community stakeholders), also play a role. Institutions, and the practitioners within them, must do the hard work necessary not only to assess their norms, practices, and systems but to understand how those norms, practices, and systems might continue to reproduce the conditions that thwart their efforts to pursue social diversity.

Discussion and Conclusion

While practitioners in this study universally stated that they valued racial, ethnic, and cultural diversity, the ways in which they valued diversity fell primarily into two categories—they valued understanding the needs and experiences of minoritized communities and also valued social diversity among colleagues and staff. Notably, their motivations appeared to be primarily driven by social imperatives such as inclusion, with one practitioner directly connecting social diversity as a solution, at least in part, to racial injustice in the United States. What appears to be key omissions are valuing diversity for reasons related to innovation and global competition, two popular rationales for institutional diversity efforts (Bell, Lewenstein, Shouse, & Feder, 2009; National Academies, 2011; Herring, 2014; Phillips, 2014). Furthermore, while some practitioners pulled on the majority-minority argument in response to other questions they were asked during their interviews, there was no mention of shifting demographic patterns as a rationale for valuing social diversity.

Importantly, across their interviews, many, if not most, practitioners cited interventions they developed and/or implemented with the express purpose of engaging minoritized communities—1) exhibits or workshops designed for particular cultural communities in celebration of heritage days or heritage months; 2) inclusion or exclusion of specific artifacts or

images that connect with minoritized learners; 3) foreign translations of label copy; 4) visitor studies centered on the needs and interests of minoritized learners; 5) workshops that teach minoritized learners "how to do a museum;" and 6) scholarships for minoritized learners. Yet, in contrast, only two practitioners (one scientist and one curator) provided examples of concrete interventions they have deployed in an attempt to hire staff from minoritized communities—implicit bias training and sending position descriptions to an audience that goes beyond the "traditional Ivy League" applicants. This can be attributed to a number of factors including (but not limited to): practitioners may regard hiring practices to be the exclusive domain of human resources; although approximately two-thirds of the practitioners I spoke with occupied what appeared to be managerial, directorial, and upper executive level positions, the title of manager and/or director in a museum setting may or may not involve interviewing, hiring, or supervising staff; and practitioners may be oriented towards exhibitions and programming as the focal sites for diversity work, not institutional processes and procedures. This might also be attributed to the fact that practitioners indicated that social diversity among colleagues, staff and leadership was not a value of their museum. Here I revisit Nightingale and Mahal's work (2012), which found that diversity initiatives are usually only successful when leadership are responsive to the ideas and concerns of staff and provide them with opportunities to take ownership of institutional diversity efforts. When these variables are not in place, social progress remains stunted. I also return to the nebulous, ill-defined nature of the term "diversity." Given how rarely, if ever, it was operationalized by practitioners, I suspect that their values around diversity remained in the abstract, making it difficult to imagine what a concrete instantiation of their values might look like.

Interestingly, while the (small) majority of practitioners indicated that their museums valued ethnic, racial, and cultural diversity, practitioners made clear that they largely did not share their institutions' priorities or motivations for pursuing social diversity. Practitioners believed that their institutions valued and prioritized revenue, representational optics, and their conservative leanings over meaningful engagement of minoritized communities. Practitioners' responses made it apparent that there were profound misalignments in values across practitioners with the consequence that social diversity could not be actualized as a primary goal even if it was articulated as such. In rooting this in the limited literature museum studies has to offer, we know that effecting change is only possible if 1) new values have been introduced and/or when 2) values align (Hooper-Greenhill, 2000; Nightingale and Mahal, 2012; Davies, Paton & O'Sullivan, 2013).

Across practitioners' responses, there also remained a lack of clarity around who ultimately was accountable for their institutions' diversity efforts. Were there particular individuals or departments formally charged with this work? If so, were internal stakeholders well-resourced? What metrics, if any, were in place? How were they measured and who measured them? Who was responsible if these metrics were not met? These issues were not raised by practitioners.

On a final note, I wish to bring attention to the different ways in which practitioners positioned themselves within their institutional context—with some referring to the museum using "we" while many others located themselves as separate from the museum using "they," "the museum," and/or "the institution." Given that individuals' discursive practices produce narratives about themselves and others as particular kinds of people with particular kinds of identities, it feels important to acknowledge the manner in which practitioners attempted to separate themselves from their organizations given the subject matter of the interview. What is also significant is that

executive-level practitioners (vice presidents and chief officers) also deployed "they," "the museum," and/or "the institution" in their responses, implying that they too were subject to their institution's whims around issues of diversity. This said, their use of these words may also have been a function of the question I asked them, which I specifically worded with the hope that they would consider their values as not necessarily reflective of their museum's aims.

Limitations and Contributions

This work has several limitations. I restricted this study to science museum practitioners (driven by the notion that the type of museum practitioners worked in might have a profound influence on their epistemological orientation to diversity), which raises questions about how practitioners' values might be shaped by museum type (art museums versus zoos and aquaria vs children's museums), museum domains (art versus science vs history), and museum conditions (e.g. age, size, location). Although I interviewed practitioners across a variety of science museum types—e.g. natural history, science centers, nature museums—my sample was too small, and unequal across these sub-types, to draw conclusions about the differences that might exist within and across these practitioners as a direct result of their organizational affiliation. Furthermore, I interviewed 1 to 3 practitioners per museum, which may have meant that I received a somewhat idiosyncratic picture of practitioners' values.

Despite these limitations, this work makes several contributions. First, micro-level, qualitative understandings of museum contexts from the perspective of practitioners is neglected across literatures. Second, empirical and theoretical work around the different priorities for why multiple stakeholders internal to a single organization type pursue social diversity agendas remains emergent. Third is that I identified parallels in practitioners' values, which can potentially be used

to guide not only future research questions but also to inform interventions designed to support practitioners in articulating and concretizing their values as well as identifying the areas of alignment and misalignment that exist across their collective values as practitioners. And the fourth contribution this work makes is a methodological one as a key challenge in interviewing individuals about their values within the context of their institutional setting is disentangling an individual's values from their institution's. Here I grappled with the dearth of research that bridges the micro and the macro in informal education environments, research that connects individuals' personal and professional experiences with teaching and learning with the social (institutional) structures that provide the context for those experiences. In considering education research more broadly, perhaps the problem statement (as it relates to the methodological concerns discussed in this paper) is how we might consistently attend to, and bridge, micro- and macro-levels of teaching and learning in the development of interview protocols, during the course of conducting interviews, and through our analyses of interviews.

Epilogue

Contributions

This dissertation produced empirically-grounded understandings of: 1) museum practitioner's beliefs about racial, ethnic, and cultural diversity; 2) their understanding of the role of race, culture, and ethnicity in minoritized learners' sensemaking; and 3) the areas of tension and symmetry between practitioners' espoused and enacted values as well as their perception of the value their institutions place (or do not place) on institutional diversity work. Importantly, these understandings are now situated within actual museum practice through in-depth discussions with museum practitioners. Increasing our knowledge of these issues not only fills critical gaps in the literature on museum education and informal learning—specifically informal science learning, but it is also in line with calls to reform, reimagine, and redesign museums to make them more inclusive and equitable for minoritized publics.

This dissertation also generated insights related to the following themes:

1) how discourse works to position people and communities in ways that can be both pejorative and generative;

2) how inequity is reproduced and reinscribed discursively;

3) how we might recognize, refuse and reject deficit-based narratives and discourses about historically marginalized peoples;

4) how participation in ethnic or historically racialized communities provides tools for sensemaking;

5) practitioners' beliefs have material consequences for how they design educational experiences for all publics—including minoritized publics;

6) how culturally-based interventions may still center the dominant culture rather than the minoritized cultures they are meant to center;

7) even when practitioners value social diversity, the ideologies that undergird those values are important to understand as there may be contradictions that need to be surfaced and addressed;

8) and practitioners' values and their institutions' values often differ, producing tensions in pursuing diversity work.

Taken together, these themes help us to better understand the context for museum practitioners' pedagogical practices when designing for racially, ethnically, and culturally diverse communities. They also situate us in the conceptual landscape that must be considered when developing new design frameworks for museum practitioners to leverage when they design for minoritized communities as well as when developing the professional development practitioners may need to engage minoritized communities in experiences that are meaningful and culturally relevant.

Future Work

I consider this work a springboard to pursue future lines of inquiry in museum education. With regards to building on the current studies detailed in this dissertation, I believe that it would be valuable to pursue ethnographic data collection to corroborate or add nuance to practitioners' self-reports and perceptions. This would entail conducting observations of exhibition development meetings as well as education program planning sessions to examine what is said, how it said, what is prioritized, what is backgrounded, what ideas are introduced, whose ideas are considered, what voices are present, and what voices are absent. It would also be additive to consider how practitioners' beliefs and values might be shaped by differing institutional contexts. By this I mean,

how might working for an art museum, a children's museum, a zoo, an aquarium, or a botanic garden influence practitioners' understandings of racial, ethnic, and cultural diversity and its role in sensemaking? I am also interested in how practitioners' beliefs and values might be shaped by a museum's domain (e.g. art vs science vs history) and a museum's geographical and historical characteristics (e.g. age, size, location).

In addition to future studies of practitioners, I would like to interview community members who rarely, or never go, to museums and perhaps do an exhibition walkthrough with them to understand how they are making sense of museum exhibitions – what is foregrounded for them and what is backgrounded and what might this mean for how museums think about design? This shifts away from the customary paradigm of conducting museum research centered on existing visitors, about whom much scholarship has been written. By collecting data primarily from visitors, researchers limit their ability to uncover and address the barriers that may be preventing communities of color as well as low-income communities from visiting. Therefore, in the near future, I wish to engage non- or infrequent visitors from the minoritized communities museums wish to attract—Black, Latino, Asian, and Native American. Through this effort, I hope to better understand both the sensemaking and sense-making strategies learners from these communities bring to their interpretations of museum exhibitions. I will be placing particular emphasis on examining the ways in which minoritized learners draw on cultural tools—languages, dispositions, specialized discourses, styles of talking, and worldviews—to make sense of their experiences within a museum setting. I also wish to bring focus to the moments of alignment and tension between museum practitioners' intended outcomes for an exhibition and the sensemaking of minoritized learners.

Some of the questions I may ask of the data I collect from non- or infrequent visitors include: How do they approach the activity of looking at an exhibit or walking through an exhibition? What are their dispositions? What do they say? How do they say it? Why are they saying it? What types of prior knowledge do they make connections to in their interpretations of exhibition content? What kinds of questions do they ask of the exhibitions and of each other? Are there particular worldviews that inform how they are making sense of exhibitions? If so, what are they and why are they being conjured up during their museum visit? In answering these questions, I hope to better understand not just the sensemaking of non- or infrequent visitors from communities of color, but also the ways in which museum practitioners may need to shift both their perspectives on racial, ethnic, and cultural diversity and their pedagogical practices when designing for minoritized communities.

I also wish to desettle prior work on sensemaking in museums by pulling on theoretical frameworks that explicitly account for cultural influences on learning. I still intend to take a sensemaking approach to understanding the learning processes of non- or infrequent visitors, meaning that I will study talk, gesture, and any related interactions to understand how individuals come to attribute meaning or sense to anything they see, hear, or experience (Zimmerman et al., 2010). However, I believe that activities are situated within people's everyday practices (Pea, 1993; Hutchins, 1995; Rogoff, 2003) and are shaped by cultural resources, or tools, such as the languages, dispositions, specialized discourses, styles of talking, and worldviews that circulate through communities. Through our participation in various cultural communities, we develop a toolkit of cultural resources (such as those listed above). Our ways of knowing are influenced by these resources and we draw upon them, selecting from our multiple repertoires of practice to

define not only who we are but also to make meaning of situations and experiences across a wide variety of contexts and circumstances (Saxe, 1996; Gutierrez & Rogoff, 2003; Nasir, Roseberry, Warren & Lee, 2006). Therefore, I will place at the center of my sensemaking approach the role of cultural tools in non- or infrequent visitor's sense-making of museum exhibitions. I consider culture and cultural tools somewhat broadly, not only as including practices from participation in ethnic heritage, but also in the sense that there are cultures of museums and of individual families, groups, and pairs that are developed and practiced through multiple shared experiences (Fine, 1983; Nasir, et al., 2006). In this way, studying non- or infrequent visitors as they engage in sense-making of exhibitions is critical to understanding not just the meaning they make of those exhibitions, but the cultural tools they bring into their conversations and interpretations as evidenced by their discourse and actions in a museum setting.

References

Agle, B. R. and C. B. Caldwell. (1999). Understanding Research on Values in Business. *Business and Society 38*(3), 326–387.

Ahmed, S. (2012). *On being included: Racism and diversity in institutional life*. Duke University Press.

Akwagyiram, A. (2018). Nigeria could borrow back its plundered Benin Bronzes: Governor. Accessed April 4, 2019. Retrieved from https://www.reuters.com/article/us-nigeria-history-benin-bronzes/nigeria-could-borrow-back-its-plundered-benin-bronzes-governor-idUSKBN1JG0WR

Allen, L. B., & Crowley, K. J. (2014). Challenging beliefs, practices, and content: How museum educators change. *Science Education*, *98*(1), 84-105.

Allen, S., & Gutwill, J. (2003). Assessing techniques for facilitating meaning-making by science museum visitors. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Allport, G.W., Vernon, P., 1931. A test for personal values. The Journal of Abnormal and Social Psychology 26 (3), 231–248.

Allport, G. W., Vernon, P. E., & Lindzey, G. (1960). Study of values. Oxford, UK: Houghton Mifflin.

American Association of Museums' Task Force on Museum Education. (1992). *Excellence and Equity: Education and the Public Dimension of Museums. A Report from the American Association of Museums.* American Association of Museums.

Anyon, J. (2005). *Radical possibilities: Public policy, urban education, and a new social movement*. New York, NY: Routledge.

Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, *38*(2), 113-125.

Artiles, A. J., & McClafferty, K. (1998). Learning to teach culturally diverse learners: Charting change in pre-service teachers' thinking about effective teaching. *The Elementary School Journal*, 189-220.

Ash, D., & Lombana, J. (2013). Reculturing museums: Working toward diversity in informal settings. *Journal of Museum Education*, *38*(1), 69-80.

Ash, D., & Lombana, J. (2013). Reculturing museums: Working toward diversity in informal settings. *Journal of Museum Education*, *38*(1), 69-80.

Au, W. (2010). *Unequal by design: High-stakes testing and the standardization of inequality.* Routledge.

August, D., & Shanahan, T. (2017). *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth*. Routledge.

Bailey, E. B. (2006). Researching museum educators' perceptions of their roles, identity, and practice. *Journal of Museum Education*, *31*(3), 175-197.

Bakhtin, M. M. (1981). *The dialogic imagination: Four essays* (M. Holquist, Ed.; C. Emerson & M. Holquist, Trans.). Austin, TX: University of Texas Press.

Bamberg, M. (2005). "Positioning." In D. Herman, M. Jahn, and M.L. Ryan (eds), Routledge Encyclopedia of Narrative Theory (pp. 445-6). London: Routledge.

Bang, M., & Medin, D. (2010). Cultural processes in science education: Supporting the navigation of multiple epistemologies. *Science Education*, *94*(6), 1008-1026.

Bang, M., Brown, B., Calabrese Barton, A., Rosebery, A. S., & Warren, B. (2017). Toward more equitable learning in science. *Helping students make sense of the world using next generation science and engineering practices*, 33-58.

Bang, M., & Vossoughi, S. (2016). Participatory Design Research and Educational Justice: Studying Learning and Relations Within Social Change Making. *Cognition and Instruction*, *34*(3), 173-193.

Banks, J. (1994). *Multiethnic education: Theory and practice*. Needham Heights, MA: Allyn & Bacon.

Barker, A. W. (2010). Exhibiting archaeology: archaeology and museums. *Annual Review of Anthropology*, *39*, 293-308.

Baron, R., Tom, D. Y. H., & Cooper, H. M. (1985). Social class, race and teacher expectations. In J. B. Dusek (Ed.), *Teacher expectancies*. Hillsdale, NJ: Lawrence Erlbaum.

Bell, P., Lewenstein, B., Shouse, A. W., & Feder, M. A. (2009). *Learning science in informal environments: People, places, and pursuits* (Vol. 32, No. 3, p. 127). Washington, DC: National Academies Press.

Bennett, M. (1993). Towards ethnorelativism: A develop- mental model of intercultural sensitivity. In M. Paige (Ed.), *Education for the intercultural experience* (pp. 21-72). Yarmouth, ME: Intercultural Press.

Bevan, B., & Xanthoudaki, M. (2008). Professional development for museum educators: Unpinning the underpinnings. *Journal of Museum Education*, *33*(2), 107-119.

Bodur, Y. (2012). Impact of course and fieldwork on multicultural beliefs and attitudes. *Educational Forum*, *76*, 41-56.

Bonilla-Silva, E. (2014). *Racism without racists: Color-blind racism and the persistence of racial inequality in America.* New York, Roman and Littlefield.

Brown, K. D., & Brown, A. L. (2012). Useful and dangerous discourse: Deconstructing racialized knowledge about African-American students. *Educational Foundations*, *26*(1–2), 11–26.

Bruner, J. S. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.

Buchanan, L. B. (2015). "We make it controversial": Elementary pre-service teachers' beliefs about race. *Teacher Education Quarterly*, *42*(1), 3-26.

Burnham, R., & Kai-Kee, E. (2005). The art of teaching in the museum. *Journal of Aesthetic Education*, *39*(1), 65-76.

Cahill, C., Kuhn, A., Schmoll, S., Lo, W. T., McNally, B., & Quintana, C. (2011, June). Mobile learning in museums: how mobile supports for learning influence student behavior. In *proceedings of the 10th international conference on interaction design and children* (pp. 21-28). ACM.

Calderhead, J. (1996). Teachers: beliefs and knowledge. In D. C. Berliner & R. C. Calfee (eds.), *Handbook of Educational Psychology*, 709-25. New York: Macmillan.

Carr, M., Clarkin-Phillips, J., Beer, A., Thomas, R., & Waitai, M. (2012). Young children developing meaning-making practices in a museum: the role of boundary objects. *Museum management and curatorship*, *27*(1), 53-66.

Cazden, C., & Leggett, E. (1976). Culturally responsive education: A discussion of LAU remedies, II. Prepared for the U.S. Department of Health, Education, and Welfare. National Institute of Education.

Charmaz, K. (2001). "Grounded Theory," pp. 335-352 in *Contemporary field research: Perspectives and formulations*, Second Edition, ed. Robert Emerson. Prospect Heights, IL: Waveland Press.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* Sage Publications Limited.

Coburn, W. (2000). The nature of science and the role of knowledge and belief. *Science and Education, 9*, 219-246.

Cochran-Smith, M. (1995). Color blindness and basket making are not the answers: Confronting the dilemmas of race, culture, and language diversity in teacher education. *American Educational Research Journal*, *32*, 493-522.

Cochran-Smith, M. (2004). *Walking the road: Race, diversity, and social justice in teacher education.* New York: Teachers College Press.

Cole, M. (1996). *Cultural psychology: A once and future discipline.* Cambridge, MA: The Belknap Press of Harvard University Press.

Cole, M. (2009). Designing, implementing, sustaining, and evaluating idiocultures for learning and development: The case study of the Fifth Dimension. In S. Bekman & A. Aksu-Koç (Eds.), *Perspectives on Human Development, Family, and Culture* (pp. 331-349). Cambridge University Press.

Cole, M. (2013). Differences and deficits in psychological research in historical perspective: A commentary on the special section. *Developmental psychology*, *49*(1), 84.

Collaboration for Ongoing Visitor Experience Studies. (2018). Understanding our visitors: Multi-Institutional Science Center Study July 2017 – June 2018. Accessed November 18, 2018.
Retrieved from http://www.understandingvisitors.org/wp-content/uploads/2018/10/COVES-FY18-Aggregate-Report_spreads.pdf?fbclid=IwAR2tMZkIz57p9Ci6XrwRDJx3LO7GC3otRrRJJUv1GvNBi7i7c4HhfzlPZzo

Conaty, G. T. (2008). The effects of repatriation on the relationship between the Glenbow Museum and the Blackfoot people. *Museum management and curatorship*, *23*(3), 245-259.

Conaty, G. T., & Carter, B. (2005). Our story in our words: Diversity and equality in the Glenbow Museum. *Looking reality in the eye: Museums and social responsibility*, 43-58.

Conner, C. D. (2005). *A people's history of science: Miners, Midwives, and "low mechaniks."* New York, NY: Nation Books.

Cox, Taylor. 2001. *Creating the Multicultural Organization: A Strategy for Capturing the Power of Diversity*. San Francisco, CA: Jossey-Bass.

Davies, B., & Harré, R. (1990). Positioning: The discursive production of selves. *Journal for the Theory of Social Behaviour*, *20*(1), 43-63.

Davies, B., & Harré, R. (1999). Positioning and personhood. In R. Harré & L. van Langenhove (Eds.), Positioning theory: Moral contexts of intentional action (pp. 32–52). Oxford, UK: Blackwell Publishers.

Davies, S. M., Paton, R., & O'Sullivan, T. J. (2013). The museum values framework: a framework for understanding organisational culture in museums. *Museum Management and Curatorship*, *28*(4), 345-361.

Dawson, E. (2014). Equity in informal science education: developing an access and equity framework for science museums and science centres. *Studies in Science Education, 50*(2), 209-247. doi:10.1080/03057267.2014.957558

Dawson, E. (2014). "Not Designed for Us": How science museums and science centers socially exclude low-income, minority ethnic groups. *Science Education, 98*(6), 981-1008.

Delany-Barmann, G., & Minner, S. (1997). Development and implementation of a program of study to prepare teachers for diversity. *Equity and Excellence in Education*, *30*(2), 78-85.

Derman-Sparks, L., & Phillips, C. B. (1997). *Teaching/learning antiracism*. New York: Teachers College Press.

Dose, J. J. (1997). Work values: An integrative framework and illustrative application to organizational socialization. *Journal of Occupational and Organizational Psychology, 70,* 219–240.

Duarte, J. L., Crawford, J. T., Stern, C., Haidt, J., Jussim, L., & Tetlock, P. E. (2015). Political diversity will improve social psychological science 1. *Behavioral and Brain Sciences*, 38.

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Administrative science quarterly*, *46*(2), 229-273.

Enz, C. (1988). The role of value congruity in intraorganizational power. Administrative Science Quarterly, 35: 504- 529.

Envoy Global. (2017). Immigration Trends Report. Accessed on March 14, 2019. Retrieved from https://resources.envoyglobal.com/reports/2017-immigration-trends-report

Enyedy, N., Rubel, L., Castellón, V., Mukhopadhyay, S., Esmonde, I., & Secada, W. (2008). Revoicing in a multilingual classroom. *Mathematical Thinking and Learning*, *10*(2), 134-162.

Erickson, F. (2002). Culture and human development. *Human Development, 45*(4), 299-306.

Esmonde, I. (2009). Mathematics learning in groups: Analyzing equity in two cooperative activity structures. *Journal of the Learning Sciences*, 18(2), 247–284.

Ethnologue. (2019). "Languages of the World." Accessed on May 28, 2019. Retrieved from https://www.ethnologue.com/statistics

European Union. (2010). "Charter of Fundamental Rights of the European Union." Accessed on May 24, 2019. Retrieved from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:0389:0403:en:PDF

Falk, J. H. (1995). Factors influencing African American leisure time utilization of museums. *Journal of Leisure Research, 27*(1), 41-60.

Falk, J. & Dierking, L. D. (2000). *Learning from museums: Visitor experiences and the making of meaning*. Walnut Creek, CA: AltaMira Press.

Falk, J., Dierking, L. D., & Adams, M. (2011). Living in a learning society: museums and free-choice learning. In S. MacDonald (Ed.), *A companion to museum studies* (pp. 323 – 339). UK: Blackwell.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational research*, *38*(1), 47-65.

Farrell, B., & Medvedeva, M. (2010). *Demographic transformation and the future of museums*. American Association of Museums Press.

Feinstein, N. W., & Meshoulam, D. (2014). Science for what public? Addressing equity in American science museums and science centers. *Journal of Research in Science Teaching*, *51*(3), 368-394.

Fine, G. A. (2002). *Shared fantasy: Role playing games as social worlds*. University of Chicago Press.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading MA: Addison-Wesley Publishing.

Fred, M. & Farrell, B. (2008). Diversifying the Arts: Bringing in Race and Ethnic Perspectives. In D. Grams & B. Farrell (Eds.), *Entering cultural communities: Diversity and change in the nonprofit arts* (143 – 170). Rutgers University Press.

Forum for Youth Investment. (2003). After-school for all? Exploring access and equity in after-school programs.

Foucault, M. (1972). *The archaeology of knowledge*. New York: Pantheon Books.

Fred, M. & Farrell, B. (2008). Diversifying the arts: Bringing in race and ethnic perspectives. In D. Grams & B. Farrell (Eds.), *Entering cultural communities: Diversity and change in the nonprofit arts* (143 – 170). New Brunswick, NJ: Rutgers University Press.

Gay, G. (2000). *Culturally responsive teaching theory, research, and practice*. New York, NY: Teachers College Record.

Gay, G. (2013). Teaching to and through cultural diversity. *Curriculum Inquiry*, *43*(1), 48-70.

Gay, G., & Howard, T. C. (2000). Multicultural teacher education for the 21st century. *Teacher Educator*, *36*(1), 1–16.

Garcia, D. C. (2004). Exploring connections between the construct of teacher efficacy and family involvement practices: Implications for urban teacher preparation. *Urban Education*, *39*(3), 290-315.

Garibay, C. (2009). Latinos, leisure values, and decisions: Implications for informal science learning and engagement. *The Informal Learning Review*, *94*, 10-13.

Gess-Newsome, J. (1999). Secondary teachers' knowledge and beliefs about subject matter and their impact on instruction. In J. Gess-Newsome & N. G. Lederman (Eds.), *Examining pedagogical content knowledge: The construct and its implication for science education* (pp. 51-94). Dordrecht, the Netherlands: Kluwer Academic.

Glaser, B. G., & Strauss, A. L. (2009). *The discovery of grounded theory: Strategies for qualitative research.* Piscataway, NJ: Transaction Books.

Gonzalez, N., Moll, L. C., Tenery, M. F., Rivera, A., Rendon, P., Gonzales, R., & Amanti, C. (1995). Funds of knowledge for teaching in Latino households. *Urban Education*, *29*(4), 443-470.

Grant, C. A., & Sleeter, C. E. (2007). *Doing multicultural education for achievement and equity*. New York: Routledge.

Gutiérrez, K. D. (2008). Developing a sociocritical literacy in the third space. *Reading research quarterly*, *43*(2), 148-164.

Gutiérrez, K. D., Baquedano-López, P., & Tejeda, C. (1999). Rethinking diversity: Hybridity and hybrid language practices in the third space. *Mind, culture, and activity*, *6*(4), 286-303.

Gutierrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational researcher*, *32*(5), 19-25.

Gutwill-Wise, J., & Allen, S. (2002). Finding significance: Testing methods for encouraging meaning-making in a science museum. Current Trends in Audience Analysis, 15, 5–11.

Haas, J. (1996). Power, objects, and a voice for anthropology. *Current Anthropology*, *37*(1), S1-S22. University of Chicago Press.

Haney, J. J., & McArthur, J. (2002). Four case studies of prospective science teachers' beliefs concerning constructivist teaching practices. *Science Education*, *86*(6), 783-802.

Harré, R. (2012). Positioning theory: Moral dimensions of social-cultural psychology. In J. Valsiner (Ed.), The Oxford handbook of culture and psychology (pp. 191–206). NY: Oxford University Press.

Harré, R. & Moghaddam, F. (Eds.). (2003). *The self and others: Positioning individuals and groups in personal, political, and cultural contexts*. Greenwood Publishing Group.

Harré, R., & Moghaddam, F. (2011). Positioning theory. In N. Bozatzis & T. Dragonas (Eds.), *The discursive turn in social psychology*. Chagrin Falls, OH: Taos Institute.

Harré, R., Moghaddam, F. M., Cairnie, T. P., Rothbart, D., & Sabat, S. R. (2009). Recent advances in positioning theory. *Theory & psychology*, *19*(1), 5-31.

Harré, R., & Slocum, N. (2003). Disputes as complex social events: On the uses of positioning theory. *Common Knowledge*, *9*(1), 100-118.

Harré, R., & van Langenhove, L. (Eds.). (1999). Positioning theory: Moral contexts of intentional action. Oxford, UK: Blackwell Publishers.

Harré, R., & van Langenhove, L. (1999). The dynamics of social episodes. In R. Harré & L. van Langenhove (Eds.), Positioning theory: Moral contexts of intentional action (pp. 1–13). Malden, MA: Blackwell Publishers, Ltd.

Harrison, E. F. (1975). *The Managerial Decision-Making Process.* Houghton Mifflin, Boston.

Hein, G. E. (1999). The constructivist museum. *The educational role of the museum*, *2*, 73-79.

Henderson, L., & Herring, C. (2013). Does critical diversity pay in higher education? Race, gender, and departmental rankings in research universities. *Politics, Groups, and Identities*, *1*(3), 299-310.

Herbel-Eisenmann, B., Sinclair, N., Chval, K. B., Clements, D. H., Civil, M., Pape, S. J., Stephan, M., Wanko, J., & Wilkerson, T. L. (2016). Positioning mathematics education researchers to influence storylines. *Journal for Research in Mathematics Education*, *47*(2), 102-117.

Herbel-Eisenmann, B., & Wagner, D. (2010). Appraising lexical bundles in mathematics classroom discourse: Obligation and choice. Educational Studies in Mathematics, 75(1), 43–63.

Herbel-Eisenmann, B. A., Wagner, D., Johnson, K. R., Suh, H., & Figueras, H. (2015). Positioning in mathematics education: Revelations on an imported theory. *Educational Studies in Mathematics*, *89*(2), 185-204.

Herring, C. (2014). Diversity and departmental rankings in chemistry. *Careers, Entrepreneurship, and Diversity: Challenges and Opportunities in the Global Chemistry Enterprise. HN Cheng, S. Shah, & ML Wu.(Eds.). Washington, DC: American Chemical Society Books*, 225-236.

Herring, C. (2009). Does diversity pay?: Race, gender, and the business case for diversity. *American Sociological Review*, 74(2), 208-224.

Hirsch, J. L. (2008). New allies for nature and culture: Exploring common ground for a just and sustainable Chicago region. *Environmental Justice*, *1*(4), 189-194.

Holland, D., & Leander, K. (2004). Ethnographic studies of positioning and subjectivity: An introduction. *Ethos, 32*(2), 127–139.

Hooper-Greenhill, E. (1999). Education, communication and interpretation: Towards a critical pedagogy in museums. *The educational role of the museum*, *2*, 3-27.

Hornecker, E. (2016). The To-and-Fro of Sensemaking: Supporting Users' Active Indexing in Museums. *ACM Transactions on Computer-Human Interaction (TOCHI)*, *23*(2), 10.

Howard, G. R. (2016). *We can't teach what we don't know: White teachers, multiracial schools*. New York, New York: Teachers College Press.

Hubbard, Edward E. 2004. *The Diversity Scorecard: Evaluating the Impact of Diversity on Organizational Performance*. Burlington, MA: Elsevier Butterworth-Heinemann.

Hutchins, E. (1995). Cognition in the wild. Cambridge, MA: MIT Press.

Intemann, K. (2009). Why diversity matters: Understanding and applying the diversity component of the National Science Foundation's broader impacts criterion. *Social Epistemology*, *23*(3-4), 249-266.

Iverson, S. V. (2007). Camouflaging power and privilege: A critical race analysis of university diversity policies. *Educational Administration Quarterly*, *43*(5), 586-611.

Jacob, P. E., J. J. Flink and H. L. Schuchman. (1962). 'Values and their Function in Decision-Making', *American Behavioral Scientist* 5 (suppl.), 1–34.

Janes, R. R. (2009). *Museums in a troubled world: Renewal, irrelevance or collapse?* Routledge.

Jørgensen, Torben Beck, and Barry Bozeman. (2007). Public Values: An Inventory. *Administration & Society 39*(3): 354–81.

Jung, Y. (2016). Micro examination of museum workplace culture: how institutional changes influence the culture of a real-world art museum. *Museum Management and Curatorship*, *31*(2), 159-177.

Ju, M.-K., & Kwon, O. N. (2007). Ways of talking and ways of positioning: Students' beliefs in an inquiry- oriented differential equations class. Journal of Mathematical Behavior, 26(3), 267–280.

Jussim, L., & Harber, K. D. (2005). Teacher expectations and self-fulfilling prophecies: Knowns and unknowns, resolved and unresolved controversies. *Personality and social psychology review*, *9*(2), 131-155.

Kahn, M. (2000). Not really pacific voices: Politics of representation in collaborative museum exhibits. *Museum Anthropology*, *24*(1), 57-74.

Kaiser Family Foundation. "Distribution of Medicaid by Race/Ethnicity." Accessed on March 14, 2019. Retrieved from https://www.kff.org/medicaid/state-indicator/distribution-by-raceethnicity-4/?currentTimeframe=0&selectedDistributions=white--black--hispanic--other--total&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

Kania, J., & Kramer, M. (2011). Collective Impact. *Stanford Social Innovation Review, 9*(1), 36-41.

Kane, R., Sandretto, S., & Heath, C. (2002). Telling half the story: A critical review of research on the teaching beliefs and practices of university academics. *Review of educational research*, *72*(2), 177-228.

Karp, I. and Lavine, S.D. (1991). *Exhibiting cultures: The poetics and politics of museum display*. Washington, D.C.: Smithsonian Institution Press.

Keys, C. W., & Bryan, L. A. (2001). Co-constructing inquiry-based science with teachers: Essential research for lasting reform. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, *38*(6), 631-645.

Kirshenblatt-Gimblett, B. (1998). *Destination culture: Tourism, museums, and heritage*. University of California Press.

Knopp, T. Y., & Smith, R. L. (2005). A brief historical context for dispositions in teacher education. In R. L. Smith, D. Skarbek, & J. Hurst (Eds.), *The passion of teaching: Dispositions in the schools* (pp. 1-13). Lanham. MD: Scarecrow Education.

Konaev, M., & Moghaddam, F. M. (2010). Mutual radicalization. *Words of conflict, words of war: How the language we use in political processes sparks fighting*, 155-171. Westport, CT: Praeger.

Kotler, N. G., Kotler, P., & Kotler, W. I. (2008). *Museum marketing and strategy: designing missions, building audiences, generating revenue and resources*. John Wiley & Sons.

Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America.* New York: Crown.

Kumar, R., & Hamer, L. (2013). Pre-service Teachers' Attitudes and Beliefs Toward Student Diversity and Proposed Instructional Practices A Sequential Design Study. *Journal of Teacher Education*, *64*(2), 162-177.

Kushner, A. R. (1999). Selling racism: History, heritage, gender and the (re) production of prejudice. *Patterns of prejudice*, *33*(4), 67-86.

Labov, W. (1972). *Sociolinguistic patterns*. University of Pennsylvania Press.

Ladson-Billings, G. J. (2005). Is the team all right? Diversity and teacher education. Journal of teacher education, *56*(3), 229-234.

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American educational research journal*, *32*(3), 465-491.

Lawrence, S. M., & Tatum, B. D. (1997). White educators as allies: Moving from awareness to action. In M. Fine, L. Weiss, L. Powell, & M. Wong (Eds.), *Off White: Critical perspectives on race* (pp. 333-342). New York: Routledge.

Leacock, E. (1980). Politics, theory, and racism in the study of Black children. In *Theory and practice: Essays presented to Gene Weltfish* (pp. 153-178). The Hague, Netherlands: Mouton Publishers.

Lee, C. D. (1995). A culturally based cognitive apprenticeship: Teaching African American high school students skills in literary interpretation. *Reading research quarterly*, 608-630.

Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American educational research journal*, *38*(1), 97-141.

Lee, C. P. (2007). Reconsidering conflict in exhibition development teams. *Museum Management and Curatorship*, *22*(2), 183-199.

Lee, C. D., Spencer, M. B., & Harpalani, V. (2003). "Every shut eye ain't sleep": Studying how people live culturally. *Educational Researcher*, *32*(5), 6-13.

Leitch, S., & Motion, J. (2010). Publics and public relations: Effective change. In *The SAGE handbook of public relations*. Sage Publications Inc.

Linell, P. (2001). *Approaching dialogue*. Amsterdam: J. Benjamins Pub.

Lipman, P. (2011). *The new political economy of urban education: Neoliberalism, race, and the right to the city*. New York, NY: Taylor & Francis.

Snow, D., Anderson, L., & Lofland, L. (2006). Analyzing Social Settings: A Guide to Qualitative Observation and Analysis. Belmont, CA: Wadsworth/Thomson Learning.

Luft, J. A., Roehrig, G. H., Brooks, T., & Austin, B. A. (2003, March). *Exploring the beliefs of secondary science teachers through interview maps.* Paper presented at the meeting of the National Association for Research in Science Teaching, Philadelphia, PA.

Lynch, B. T., & Alberti, S. J. (2010). Legacies of prejudice: racism, co-production and radical trust in the museum. *Museum Management and Curatorship, 25*(1), 13-35.

MacGregor, A. G., & Impey, O. R. (Eds.). (1987). *The Origins of Museums: The Cabinet of Curiosities in Sixteenth-and Seventeenth-century Europe.* Clarendon Press.

MacLean, R. (2018). France urged to change heritage law and return looted art to Africa. Accessed April 4, 2019. Retrieved from https://www.theguardian.com/world/2018/nov/21/france-urged-to-return-looted-african-art-treasures-macron

Mai, T., & Ash, D. (2012). Tracing our methodological steps: Making meaning of diverse families' hybrid "figuring out" practices at science museum exhibits. In *Putting Theory into Practice* (pp. 97-117). Brill Sense.

Maltezou, R. (2019). Greece: Free our marbles from British Museum's 'murky prison'. Accessed May 1, 2019. Retrieved from https://www.reuters.com/article/us-britain-greece-marbles/greece-free-our-marbles-from-british-museums-murky-prison-idUSKCN1RR17S

Martin, D. B. (2009). Researching race in mathematics education. *Teachers College Record*, *111*(2), 295-338.

Martin, M. (1996). Issues of power in the participatory research process. *Participatory research in health: Issues and experiences*, 82-93.

Master, A., Cheryan, S., & Meltzoff, A. N. (2016). Computing whether she belongs: Stereotypes undermine girls' interest and sense of belonging in computer science. *Journal of Educational Psychology*, 108(3), 424.

McCall, V., & Gray, C. (2014). Museums and the 'new museology': theory, practice and organisational change. *Museum Management and Curatorship*, *29*(1), 19-35.

McDermott, R. (1997). Achieving school failure: 1972–1997. In G. Spindler (Ed.), *Education and cultural process: Anthropological approaches* (3rd ed., pp. 110–135). Prospect Heights, IL: Waveland Press.

McGee, E. O., & Martin, D. B. (2011). "You would not believe what I have to go through to prove my intellectual value!" Stereotype management among academically successful Black mathematics and engineering students. *American Educational Research Journal*, *48*(6), 1347–1389.

McKown, C., & Weinstein, R. S. (2008). Teacher expectations, classroom context, and the achievement gap. *Journal of school psychology*, *46*(3), 235-261.

Medin, D. L., & Bang, M. (2014). *Who's asking?: Native science, western science, and science education*. Cambridge, MA: MIT Press.

Meek, S., Fitzgerald, E., Sharples, M., & Priestnall, G. (2013). Learning on field trips with mobile technology. *On the Move: Mobile Learning for Development*, 1-15.

Meier, D., & Wood, D. (Eds.). (2004). *Many children left behind: How the No Child Left Behind Act is damaging our children and our schools.* Boston: Beacon Press.

Melber, L. M. (2006). Learning in unexpected places: Empowering Latino parents. *Multicultural Education*, *13*(4), 36.

Mesa, V., & Chang, P. (2010). The language of engagement in two highly interactive undergraduate mathematics classrooms. Linguistics and Education, 21(2), 83–100.

Michaels, W. B. (2016). *The trouble with diversity: How we learned to love identity and ignore inequality*. Macmillan.

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

Miller, E. R. (2013). Positioning selves, doing relational work and constructing identities in interview talk. *Journal of Politeness Research*, *9*(1), 75-95.

Milner, H. R. (2012). Beyond a test score: Explaining opportunity gaps in educational practice. *Journal of Black Studies*, *43*(6), 693–718.

Milner, H. R. (2010). *Understanding diversity, opportunity gaps, and teaching in today's classrooms: Start where you are, but don't stay there*. Cambridge, Massachusetts: Harvard Education Publishing Group

Milner, H. R. (2003). Teacher reflection and race in cultural contexts: History, meanings, and methods in teaching. *Theory into Practice, 42*(3), 173-180.

Moghaddam, F. and Harré, R. (2010) Words, conflicts and political processes. In F. Moghaddam and R. Harré (eds) *Words of Conflict, Words of War: How the language we use in political processes sparks fighting*. Santa Barbara, CA: Praeger.

Moghaddam, F. M., Harré, R., & Lee. (2008). Positioning and conflict: An introduction. In F. M. Moghaddam, R. Harré, & N. Lee (Eds.), Global conflict resolution through positioning analysis (pp. 3–20). New York: Springer.

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into practice*, *31*(2), 132-141.

Monks, K. (2018). British Museum to return Benin bronzes to Nigeria. Accessed April 4, 2019. Retrieved from https://www.cnn.com/2018/11/26/africa/africa-uk-benin-bronze-return-intl/index.html

Morrill, C., & Fine, G. A. (1997). "Ethnographic contributions to organizational sociology." *Sociological Methods & Research*, *25*(4), 424–451.

Moses, R., & Cobb, C. E. (2002). *Radical equations: Civil rights from Mississippi to the Algebra Project*. Boston, MA. Beacon Press.

Nasir, N. I. S., Rosebery, A. S., Warren, B., & Lee, C. D. (2006). Learning as a cultural process: Achieving equity through diversity. *The Cambridge handbook of the learning sciences*, 489-504.

Natesan, P., & Kieftenbeld, V. (2013). Measuring urban teachers' beliefs about African American students: A psychometric analysis. *Journal of Psychoeducational Assessment*, *31*(1), 3–15.

National Academies, Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline. (2011). *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*. Washington, DC: National Academies Press.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of curriculum studies*, *19*(4), 317-328.

Nightingale, E., & Mahal, C. (2012). The heart of the matter: integrating equality and diversity into the policy and practice of museums and galleries. *Museums, equality and social justice*, 13-37.

Nightingale, E., & Sandell, R. (Eds.). (2012). *Museums, equality and social justice*. London: Routledge.

Ng, E. S., & Sears, G. J. (2012). CEO leadership styles and the implementation of organizational diversity practices: Moderating effects of social values and age. *Journal of Business Ethics*, *105*(1), 41-52.

Oakes, J. (2005). *Keeping track: How schools structure inequality* (2nd ed.). New Haven, CT: Yale University Press.

Ostrower, F. (2005). "The Diversity of Cultural Participation: Findings from a National Survey Report." Washington, D.C.: The Urban Institute.

Orson, D. (2012). Finders Not Keepers: Yale Returns Artifacts to Peru. Accessed April 4, 2019. Retrieved from https://www.npr.org/2012/01/01/143653050/finders-not-keepers-yale-returns-artifacts-to-peru

Orson, D. (2010). Yale Returns Machu Picchu Artifacts To Peru. Accessed April 4, 2019. Retrieved from https://www.npr.org/2010/12/15/132083890/yale-returns-machu-picchu-artifacts-to-peru

Page, S. E. (2007). Making the difference: Applying a logic of diversity. Academy of Management Perspectives, 21(4), 6-20.

Pajares, M. F. (1992). Teachers' beliefs and education research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307-332.

Paris, D. (2012). Culturally Sustaining Pedagogy: A Needed Change in Stance, Terminology, and Practice. *Educational Researcher*, *41*(3), 93-97.

Pea, R. (1993). Practices of distributed intelligence and designs for education. In G. Salomon (Ed.), Distributed cognitions: Psychological and educational considerations (pp. 47 – 87). Cambridge, England: Cambridge University Press.

Pettigrew, T. (1998). Intergroup contact theory. *Annual Review of Psychology, 49,* 65–85.

Philip, T. M., & Azevedo, F. S. (2017). Everyday science learning and equity: Mapping the contested terrain. *Science Education*, *101*(4), 526-532.

Phillips, K. W. (2014). How diversity works. *Scientific American*, *311*(4), 42-47.

Pierroux, P., Krange, I., & Sem, I. (2011). Bridging contexts and interpretations: Mobile blogging on art museum field trips. *MedieKultur: Journal of media and communication research*, *27*(50), 18-p.

Pinder, Sherrow O. 2015. *Colorblindness, Post-raciality, and Whiteness in the United States*. New York: Palgrave Macmillan.

Pless, N., & Maak, T. (2004). Building an inclusive diversity culture: Principles, processes and practice. *Journal of business ethics*, *54*(2), 129-147.

Popp, P. A., Grant, L. W., & Stronge, J. H. (2011). Effective teachers for at-risk or highly mobile students: What are the dispositions and behaviors of award-winning teachers?. *Journal of Education for Students Placed at Risk (JESPAR)*, *16*(4), 275-291.

Putnam, R. T., & Borko, H. (1997). Teacher learning: Implications of new views of cognition. In B. J. Biddle, T. L. Good, & I. F. Goodson (Eds.), *International handbook of teachers and teaching* (pp. 1223-1296). Amsterdam: Kluwer Academic.

Rahm, J. (2004). Multiple modes of meaning-making in a science center. *Science Education*, *88*(2), 223-247.

Ready, D. D., & Wright, D. L. (2011). Accuracy and inaccuracy in teachers' perceptions of young children's cognitive abilities: The role of child background and classroom context. *American Educational Research Journal*, *48*(2), 335-360.

Reed, D. F. (1993). Multicultural education for pre-service students. *Action in Teacher Education*, *15*(3), 27-34.

Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education*, (pp. 102-119). New York: Simon & Schuster and Macmillan.

Robinson, G., & Dechant, K. (1997). Building a business case for diversity. *Academy of Management Perspectives*, *11*(3), 21-31.

Rogers, Y., Connelly, K., Hazlewood, W., & Tedesco, L. (2010). Enhancing learning: a study of how mobile devices can facilitate sensemaking. *Personal and Ubiquitous Computing*, *14*(2), 111-124.

Rogoff, B. (2003). *The cultural nature of human development.* New York: Oxford University Press.

Rohan, M. J. (2000). A rose by any name? The values construct. *Personality and Social Psychology Review, 4*, 255–277.

Rokeach, M. (1973). *The nature of human values*. New York: The Free Press.

Rosebery, A. S., Warren, B., & Tucker-Raymond, E. (2016). Developing interpretive power in science teaching. *Journal of Research in Science Teaching*, *53*(10), 1571-1600.

Ross, D. D., & Smith, W. (1992). Understanding preservice teachers' perspectives on diversity. *Journal of Teacher Education*, *43*(2), 94-103.

Rowe, S. (2002). The role of objects in active, distributed meaning-making. In S. Paris (Ed.), Perspectives on object-centered learning in museums (pp. 19–35). Mahwah, NJ: Lawrence Erlbaum.

Ryan, J., Hawdon, J., & Branick, A. (2002). The political economy of diversity: diversity programs in fortune 500 companies. *Sociological Research Online*, *7*(1), 1-15.

Sadker, M., Sadker, D., & Long, L. (1993). Gender and educational equality. *Multicultural education: Issues and perspectives*, 111-128.

Sandell, R. (2007). *Museums, prejudice and the reframing of difference*. Routledge.

Sandell, R. (2003). Social inclusion, the museum and the dynamics of sectoral change. *Museum and Society, 1*(1), 45-62.

Saxe, G. B. (1996). Studying cognitive development in sociocultural context: The development of a practice-based approach. In R. Jessor, A. Colby, & R. A. Shweder (Eds.), Ethnography and human development (pp. 275 – 303). Chicago: University of Chicago Press.

Schonfeld, R. C., & Westermann, M. (2015). *Art museum staff demographic survey*. Andrew W. Mellon Foundation.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. Advances in Experimental Social Psychology, 25, 1–65.

Schwartz, S. H. and W. Bilsky: 1987, 'Toward a Universal Psychological Structure of Human Values', *Journal of Personality and Social Psychology* 53, 550–562.

Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multimethod studies. *Journal of Personality and Social Psychology, 89*, 1010–1028.

Schwarzer, M. (2006). *Riches, Rivals and Radicals: 100 Years of Museum in America*. Washington, D.C.: American Association of Museums.

Scott, C. (2006). Museums: Impact and value. *Cultural Trends*, *15*(1), 45-75.

Shear, S. B., Knowles, R. T., Soden, G. J., & Castro, A. J. (2015). Manifesting destiny: Re/presentations of indigenous peoples in K–12 US history standards. *Theory & Research in Social Education*, *43*(1), 68-101.

Sheets, R. (1999). Relating competence in an urban classroom to ethnic identity development. In R. Sheets (Ed.), *Racial and ethnic identity in school practices: Aspects of human development.* Mahwah, NJ: Lawrence Erlbaum Associates.

Sheets-Pyenson, S. (1988). *Cathedrals of science: the development of colonial natural history museums during the late nineteenth century* (p. 21). Montreal: McGill-Queen's University Press.

Silverman, L. H. (1995). Visitor meaning-making in museums for a new age. Curator, 38(3), 161 – 170.

Simpson, M. G. (2012). *Making representations: Museums in the post-colonial era*. Routledge.

Sleeter, C. E. (1993). Advancing a White discourse: A response to Scheurich. *Educational Researcher, 22*(8), 13-15.

Sleeter, C., & Grant, C. (1999). Making choices for multicultural education: Five approaches to race, class, and gender (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

Slocum-Bradley, N. R. (2010). Identity construction in Europe: a discursive approach. *Identity: An International Journal of Theory and Research*, *10*(1), 50-68.

Small, M. L. (2009). "How many cases do I need? On science and the logic of case selection in field-based research." *Ethnography*, *10*(1), 5–38.

Smithsonian Institution's Office of Policy and Analysis. (2001). *Increasing Museum Visitation by Under Represented Audiences: An Exploratory Study of Art Museum Practices*. Washington D.C., Smithsonian.

Smylie, M. A. (1995). Teacher learning in the work place: Implications for school reform. In T. R. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 92-113). New York: Teachers College Press.

Solorzano, D. G., & Yosso, T. J. (2001). Critical race and LatCrit theory and method: Counter-storytelling. *International Journal of Qualitative Studies in Education*, *14*(4), 471-495.

Solorzano, D. G., & Yosso, T. J. (2001). From racial stereotyping and deficit discourse toward a critical race theory in teacher education. *Multicultural education*, *9*(1), 2.

Southerland, S. A., Sinatra, G. M., & Matthews, M. R. (2001). Belief, knowledge, and science education. *Educational Psychology Review*, *13*(4), 325-351.

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of experimental social psychology*, *35*(1), 4-28.

Spitz, J.A., & Thom, M., eds. (2003). *Urban Network: Museums Embracing Communities*. Chicago, IL. The Field Museum.

Starn, R. (2005). A historian's brief guide to new museum studies. *The American Historical Review*, *110*(1), 68-98.

Steele, C.M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist, 52,* 613-629.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology, 21*, 261–302.

Stephens, N. M., Hamedani, M. G., & Destin, M. (2014). Closing the social-class achievement gap: A difference-education intervention improves first-generation students' academic performance and all students' college transition. *Psychological science*, *25*(4), 943-953.

Strauss, A. L., & Corbin, J. M. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory. Sage Publications.

Sue, D. W. (2015). *Race talk and the conspiracy of silence: Understanding and facilitating difficult dialogues on race.* Hoboken, New Jersey: Wiley.

Syed, J., & Kramar, R. (2009). Socially responsible diversity management. *Journal of Management & Organization*, *15*(5), 639-651.

Symons, D., Peirce, R., & Redman, C. (2015, June). Positioning Theory as an Aid to Analysing Primary Students' Interaction During Online Collaborative Learning. In *Computer Supported Collaborative Learning Conference Gothenburg, Sweden*.

Taylor, C. (2017). From Systemic Exclusion to Systemic Inclusion: A Critical Look at Museums. *Journal of Museum Education*, *42*(2), 155-162.

Tienda, M. (2013). Diversity ≠ inclusion: Promoting integration in higher education. *Educational Researcher*, *42*(9), 467-475.

Tran, L. U. (2007). Teaching science in museums: The pedagogy and goals of museum educators. *Science Education*, *91*(2), 278-297.

Tran, L. U. (2008). The work of science museum educators. *Museum Management and Curatorship*, *23*(2), 135-153.

Tran, L.U., & King, H. (2007). The professionalization of museum educators: The case in science museums. *Museum Management and Curatorship*, *22*(2), 131-149.

Turner, E., Dominguez, H., Maldonado, L., & Empson, S. (2013). English learners' participation in mathematical discussion: Shifting positionings and dynamic identities. *Journal for Research in Mathematics Education*, *44*(1), 199-234.

Tyson, K., Darity Jr, W., & Castellino, D. R. (2005). It's not "a black thing": Understanding the burden of acting white and other dilemmas of high achievement. American sociological review, 70(4), 582-605.

United Nations Department of Social and Economic Affairs. (2017). "Employment Opportunities: Do Race and Ethnicity Matter?" Accessed March 14, 2019. Retrieved from https://www.un.org/development/desa/socialperspectiveondevelopment/wp-content/uploads/sites/27/2017/07/RWSSPolicyBrief3.pdf

United States Census Bureau, Geography Division. "Census Regions and Divisions of the United States." Accessed on October 14, 2018. Retrieved from https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf

United States Department of Agriculture. "Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2016." Accessed on March 14, 2019. Retrieved from https://fns-prod.azureedge.net/sites/default/files/ops/Characteristics2016.pdf

United States Department of Commerce. "Income and Poverty in the United States: 2017." Accessed on March 14, 2019. Retrieved from https://www.census.gov/content/dam/Census/library/publications/2018/demo/p60-263.pdf

United States Department of Education. (2016). The State of Racial Diversity in the Educator Workforce. Office of Planning, Evaluation and Policy Development. Accessed on March 15, 2019. Retrieved from https://www2.ed.gov/rschstat/eval/highered/racial-diversity/state-racial-diversity-workforce.pdf

United States Department of Health and Human Services. "Characteristics and Financial Circumstances of TANF Recipients Fiscal Year 2016." Accessed on March 14, 2019. https://www.acf.hhs.gov/sites/default/files/ofa/fy16_characteristics.pdf

van Langenhove, L. & Harré, R. (1994). Cultural stereotypes and positioning theory. *Journal for the Theory of Social Behaviour*, *24*(4), 359-372.

van Langenhove, L., & Harré, R. (1999). Introducing positioning theory. In R. Harré & L. van Langenhove (Eds.), Positioning theory: moral contexts of intentional action (pp. 14–31). Oxford, UK: Blackwell Publishers.

Van der Wal, Zeger, Gjalt de Graaf, and Karin Lasthuizen. (2008). What's Valued Most? A Comparative Empirical Study on the Differences and Similarities between the Organizational Values of the Public and Private Sector. *Public Administration 86*(2): 465–82.

van Dijk, H., van Engen, M., & Paauwe, J. (2012). Reframing the business case for diversity: A values and virtues perspective. *Journal of Business Ethics*, *111*(1), 73-84.

Villegas, A. M. (2007). Dispositions in teacher education: A look at social justice. *Journal of Teacher Education*, *58*(5), 370-380.

Villegas, A. M., & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of Teacher Education*, *53*(1), 20-32.

Vossoughi, S., & Bevan, B. (2014). Making and tinkering: A review of the literature. *National Research Council Committee on Out of School Time STEM*, 1-55.

Vossoughi, S., Escudé, M., Kong, F., & Hooper, P. (2013, October). Tinkering, learning & equity in the after-school setting. In *annual FabLearn conference. Palo Alto, CA: Stanford University*.

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wagner, D., & Herbel-Eisenmann, B. (2009). Re-mythologizing mathematics through attention to classroom positioning. Educational Studies in Mathematics, 72(1), 1–15.

Wali, A. (2006). Beyond the colonnades: Changing museum practice and public anthropology in Chicago. *Sociological imagination*, *42*(2), 99-113

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: race, social fit, and achievement. *Journal of personality and social psychology*, *92*(1), 82.

Weiss, R. S. (1995). *Learning from strangers: The art and method of qualitative interview studies*. Simon and Schuster.

Wentling, R. M. (2004). Factors that assist and barriers that hinder the success of diversity initiatives in multinational corporations. *Human Resource Development International*, *7*(2), 165-180.

Westermann, M., Schonfeld, R., & Sweeney, L. (2019). *Art museum staff demographic survey 2018*. Andrew W. Mellon Foundation.

Wilkening, S. and Chung, J. (2009). *Life stages of the museum visitor: Building engagement over a lifetime*. Washington, D.C.: American Association of Museums Press.

Wood, M. (2013). Mathematical micro-identities: moment-to-moment positioning and learning in a fourth-grade classroom. Journal for Research in Mathematics Education, 44(5), 775–808.

Wortham, S. (2004). The interdependence of social identification and learning. *American Educational Research Journal*, *41*(3), 715–750.

Wortham, S. (2006). *Learning identity: The joint emergence of social identification and academic learning*. Cambridge, MA: Cambridge University Press.

Yamakawa, Y., Forman, E., & Ansell, E. (2009). Role of positioning: The role of positioning in constructing an identity in a third grade mathematics classroom. In *Investigating classroom interaction* (pp. 179-202). Brill Sense.

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of educational Research*, *81*(2), 267-301.

Young, Alford. (2004). "Experiences in Ethnographic Interviewing about Race." Pp. 187-202 in *Researching Race and Racism*, ed. Martin Blumer and John Solomos. New York: Routledge.

Zanoni, P., Janssens, M., Benschop, Y., & Nkomo, S. (2010). Guest editorial: Unpacking diversity, grasping inequality: Rethinking difference through critical perspectives. *Organization*, *17*(1), 9-29.

Zimmerman, H. T., Reeve, S., & Bell, P. (2010). Family sense-making practices in science center conversations. *Science Education*, *94*(3), 478-505.

Zolberg, V. L. (1981). Conflicting visions in American art museums. *Theory and Society*, *10*(1), 103-125.