

# The Role of Identity in the Success of Black and Hispanic Professionals in Learning, Design and Technology

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Currently, there is a dwindling supply of highly qualified and diverse scientists, engineers, researchers, and scholars in the United States. The National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation posits that “doctoral education trains[ed] scientists, engineers, researchers, and scholars, all [of whom] are critical to the United States’ progress (NCSES, 2021, p. 5).” These professions contribute to economic growth, cultural development, and the standard of living in the United States (NCSES, 2017, 2018, 2021). Learning, Design, and Technology (LDT), a STEM field, is rapidly growing and requires more well-trained and diverse researchers to advance knowledge of the field. This research prospectus suggests a case study design to explore the experiences of successful underrepresented groups in LDT research and practice, particularly Black and Hispanic doctorate recipients.

## Introduction

The United States is experiencing a diversity crisis whereby a limited number of highly qualified and diverse scientists, engineers, researchers, and scholars. This diversity crisis is not only limited to the workforce but also presents itself in the research produced and doctoral education recipients. According to the National Center for Science and Engineering Statistics, White Americans are significantly more likely to have doctoral degrees in science, technology, engineering, and mathematics (STEM) than other races (NCSES, 2021). Between 2011 and 2021, minorities were underrepresented in STEM and other fields (Table 1).

**Table 1**

Research doctorate recipients by ethnicity, race, and citizenship status: 2011–2021 (Source: NCSES, 2021)

<b>Ethnicity, race, and citizenship status by year</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<i>All doctorate recipients</i>	31,725	32,981	33,964	34,003	35,071	35,678	35,736	35,350	35,227	34,473	31,674
<i>Hispanic or Latino</i>	1,989	2,144	2,135	2,190	2,449	2,548	2,536	2,572	2,844	2,850	2,856
<b>Not Hispanic or Latino</b>											
<i>American Indian or Alaska Native</i>	127	104	119	103	131	128	109	115	119	97	100
<i>Asian</i>	2,832	2,943	2,892	2,881	3,072	3,084	3,499	3,302	3,418	3,217	3,022
<i>Black or African American</i>	1,899	2,055	2,172	2,172	2,275	2,358	2,400	2,449	2,512	2,453	2,431
<i>White</i>	23,278	24,010	24,749	24,829	25,375	25,502	24,844	24,925	24,214	23,934	21,333

Diversity in STEM field research and education is vital for the progress of the United States. Learning, Design, and Technology (LDT) is a STEM field practiced and investigated across all levels and fields (OSTP, 2018). The Association for Educational Communications and Technology (AECT) explains LDT as “the study and ethical practice of creating, utilizing, and managing appropriate technological processes and resources to facilitate learning and improve performance” (Januszewski & Molenda, 2007, p.1). For two decades, it has been argued that AECT faces unique challenges of diversity of professional practice due to the organization’s many attempts to adopt an inclusive definition or an identity encompassing its philosophy, practice, and research (Persichitte, 2007).

The necessity to investigate the role of identity, focusing on the success of Black and Hispanic doctorate recipients, is necessary to ensure past exclusions of racial and ethnic groups are not repeated. Garcia and Martinez (2017) explored the intersectionality of equity and educational technology, and the role technology played in achievement disparities amongst learners. They investigate how students from different racial and gender backgrounds engage with and experience educational technology, highlighting the importance of considering multiple dimensions of identity in technology design and implementation (Garcia & Martinez, 2017). To address the underrepresentation and to enrich research and education in the LDT field studies on the intersection of diversity, identity, and the professional practice of LDT are

necessary to gain knowledge to help address the diversity crisis in doctorates earned by Black and Hispanic U.S. citizens and permanent residents and to bring new knowledge to research and education in the field.

## Review of Literature

Diverse perspectives and approaches are essential for scientific advance (Bernard & Cooperdock, 2018). In LDT, a STEM field, curriculum, and research should challenge stereotypes and biases and promote comprehensive understanding (Woodley et al., 2017a; 2017b; Benson, 2018; Bernard & Cooperdock, 2018).

Minorities have significantly contributed to LDT by exploring culturally responsive teaching practices for social justice education (Woodley et al., 2017a, 2017b). Woodley et al. (2017a; 2017b) and Benson (2018) have emphasized culture and identity to create ethical and inclusive practices. Creating equity in LDT requires more critical, cultural, and identity-based research (Perschitte, 2007; Woodley et al., 2017a, 2017b; Benson, 2018). Diverse identities, cultures, and perspectives should be represented in the curriculum to challenge stereotypes and biases. LDT is not free of values, biases, and perspectives often reflected in the technologies created by its creators (Benjamin, 2019).

Patterson-Stephens et al. (2017) cited a gap in the literature on the shared experiences of women of color in doctoral programs and explored the barriers and facilitators of the success of seven Black doctoral women in graduate education in the United States. The researchers identified themes of potential barriers to socialization experiences, student success, and challenges. More barriers surfaced, including lack of mentorship, imposter phenomenon, and social location (Patterson-Stephens et al., 2017). Dortch (2016) used a phenomenological approach to understand the self-efficacy of African American women in doctoral studies, identifying key support strategies like faculty support and peer mentorship as essential for success.

Researchers have used the autoethnography narrative to examine women's experiences in instruction design and technology, a discipline of LDT that focused on navigating academia as a minority and the challenges (Romero-Hall et al., 2018; Romero-Hall, 2021). Romero-Hall (2021) used intersectional feminism as the lens to analyze the personal journey of Afro-Latinx female researchers. A collective autoethnography exploring the experiences of multiple women scholars – faculty, and students in instructional design conducted using the feminist lens, emphasizing the role of consciousness-raising and the intertwined nature of identity (Romero-Hall et al., 2018). The researcher intended to raise awareness and promote understanding of the systemic barriers faced by women in instructional design and technology (Romero-Hall et al., 2018; Romero-Hall, 2021).

LDT focuses little on understanding the experiences of successful, underrepresented, and marginalized professionals. This study can contribute to developing ethical guidelines and best practices for designing and implementing LDT that respects and values diverse identities.

## Methodology

This proposed case study aims to delve into the personal and collective experiences of successful LDT Black and Hispanic recipients of the doctorate degree. Case study research is an effective way of understanding an individual's accounts and the collective experiences of these groups. Case study allows a researcher to understand the individual's experiences and how they fit into the larger context of a phenomenon. This philosophical approach is phenomenological as it focuses on a worldview to gain knowledge of the individual's experience.

The rationale for employing a case study approach in this study is grounded inquiry, which delves into 'how' and 'why', as well as its exploration of lived experiences from individual perspectives. (Yin, 2014; Glesne, 2016). This study explores the experiences of successful Black and Hispanic LDT doctorate recipients. The main research question (RQ) guiding this research is: What insights can be derived from examining the experiences of Black and Hispanic LDT doctorate recipients concerning representation, identity, and its impact on their academic and career achievements?

RQ 1: How do Black and Hispanic doctorate recipients in Learning, Design, and Technology professionals perceive diversity's role in their professional experiences?

RQ 2: How do Black and Hispanic doctorate recipients in Learning, Design, and Technology perceive the role of identity and navigate and negotiate it in their profession?

RQ 3: What are the specific challenges and opportunities that Black and Hispanic doctorate recipients encounter in Learning, Design, and Technology, particularly concerning representation, identity, and equity?

RQ 4: What strategies do Black and Hispanic doctorate recipients employ to promote diversity, inclusion and equity, and accurate representation in Learning, Design, and Technology research?

## Summary

A case study aims to learn about the experiences of successful Black and Hispanic doctorate recipients in LDT by intersecting representation, identity, and LDT. Diversity is a challenge and an opportunity for Black and Hispanic practitioners and researchers in LDT to share by describing the challenges and strategies shaping their success as LDT professionals self-identifying as members of these groups. My lived experience profoundly influences my desire to explore the experiences of successful Black and Hispanic professionals in the field of LDT and to examine the intersection of representation and identity in these professionals' academic and career success.

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