

Bridging the Gap of Exhibition Design, Instructional Design, and the Learning Sciences for the Future of Black Digital Humanities

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Abstract

This article examines the connection between Black digital humanities and fields such as the learning sciences, instructional design, and exhibition design. Focusing on key elements of these fields, this paper shows their relevance to Black digital humanities, arguing that the future of this emerging field lies in its intersections with other disciplines.

Introduction

Black digital humanities (Black DH) is an emerging field that centers Black people in digital humanities. This field does not yet have established traditions regarding methods or research practices. This youthfulness allows Black DH to be interdisciplinary and inclusive in relation to its methods, theoretical frameworks, and research settings [Prince and Messina 2022]. As a field that draws on Black studies and Black scholarship, Black DH has the potential to forge new paths “as [it] examines, constructs, and reimagines innovative communities and people [across space and time]” [Prince and Messina 2022]. Drawing on the limitless and interdisciplinary nature of Black DH, I discuss connections between Black DH and the fields of exhibition design, instructional design, and the learning sciences, reflecting on what Black DH can offer practitioners of various backgrounds and how this emerging field can further its reach. I speak from my own background working at the intersection of these fields, as a scholar with a degree in the learning sciences who has designed analog and digital exhibitions drawing on instructional design to create learning experiences. While I lead with caution that some of what I have to say here is derived from my experiences and is thus inherently incomplete, I believe that Black DH will prove to be an important tool through which to address urgent issues of power and identity in these academic communities.

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Defining Black DH

It is important at this junction to define Black DH. Black DH is an emerging field conceived as the process or practice of engaging with the experiences and history of Black people through digital humanities methodologies. Black DH addresses the intersection of Black lives, Black cultural and social experiences, and Black humanity with digital technologies. As a field negotiating both Blackness and the digital, Black DH is an endeavor to help restore the humanity of Black people through the use of digital platforms and tools [Gallon 2016]. As Kim Gallon writes, in advocating for a group whose identity has historically been questioned and denied, Black DH “troubles the very core of what we have come to know as the *humanities* by recovering alternate constructions of humanity that have been historically excluded from that concept” [Gallon 2016, 45]. Scholars of Black DH think critically about the issue of power; consider seriously the digital processes and tools used to study humanity; and combine historical and contemporary perspectives of Black experiences to inform research and shape practices in the field.

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Black DH is also the process or practice of recognizing that Black history and experience is defined by the intersection of policy, economics, race, technology, and gender. By using technologies and other emerging tools to empower and enact respect for Black lives, practitioners simultaneously transform Black experiences in society. In transforming the

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experiences of Black people, Black DH can in turn inform other fields instructional design and exhibition design, in their shared pursuit of creating inclusive learning environments for all students, as well as the learning sciences, which is about understanding the complexities of learning across contexts to devise new approaches [Lee 2018]. Black DH lends itself well to this work by providing historical context for the complexities of learning for Black learners. In the text that follows, I discuss the fundamentals of each field and illustrate how these fields can learn from each other. Interdisciplinary collaboration will advance Black DH, facilitating the transportation of ideas into new fields and contexts for greater impact on the real world.

Contextualizing Exhibition Design

Exhibition design is the art or process of putting together artifacts using available technologies and tools to share a narrative around a topic. Exhibition design has consistently shifted over the years from a curator-centered to an audience-centered approach [Lake-Hammond and Waite 2010]. Though gallery space, collection content, and audience are fundamental elements of exhibition design, audience considerations are increasingly becoming influential in the design of exhibitions [Lake-Hammond and Waite 2010]. This shift to a user- or audience-centered design is related to the integration of concepts such as user- or human-centered design in the broader discipline [Lee 2015] [Lake-Hammond and Waite 2010]. The field of exhibition design is interdisciplinary as it draws on an iterative relationship between narrative, storytelling, architectural space, communication media, and an understanding of the audience [Locker 2011]. It includes the fields of graphic, industrial, architectural, interaction, and organization design [Lake-Hammond and Waite 2010]. A combination of experience design through multimedia technology, lighting, audio, and creative performance helps create a comprehensive narrative around a topic. Indeed, Locker argues that there is no magic recipe for exhibition design because there are a variety of different approaches that have evolved with each generation of designers. However, Derda provides a contemporary definition of exhibition design:

Exhibition design is a process that uses visual storytelling and environment to convey information. It focuses on the content of the artworks or artefacts to be presented and is concerned with their arrangement so that they may be understood in connection to one another and in conversation with the viewing environment's conditions. [Derda 2023, 2]

Exhibition design requires a variety of design skills applied differently based on the context [Lee 2015]. It's a method of information presentation that aims at engaging the audience through the exhibition organization and the delivery of the information. As Urry and Larsen explain, the main goals of exhibition design are a) to connect the educational and culturally important aspects of the content; and b) to attract a wider audience to create an environment that will both foster learning and act as entertainment. Embedded in the exhibition design process is the desire to create and be learning environments, thus the relevance of and connection with instructional design processes, further discussed below.

Racial Issues in Exhibition Design

As learning spaces, exhibitions have historically been designed to perpetuate colonial and racist views of marginalized groups. For instance, when objects looted from former colonies or objects that were created during the eras of chattel slavery or Jim Crow are exhibited without proper contextualization in the design of the exhibition, they tend to reinforce racist and imperialist tropes. For the past four years, conversations about race have increasingly been supported in the design world by the white designers, curators, and editors who have dominated the field. However, the end goal of this dialogue has yet to be clarified, as racist tropes and practices are still perpetuated by exhibition design [Okhio 2023]. At a 2023 exhibition created by prominent designers and curators during Italian Design Week, figurines of the 1920s portraying racist caricatures of Black, Asian, Middle Eastern, and Indigenous people as subhuman were displayed without any context [Okhio 2023]. Yet, only a few designers, such as the Asian-Australian multi-disciplinary designer Jenny Nguyen and the Black American designer and professor of architecture Stephen Burks openly criticized the exhibition as offensive [Okhio 2023]. Designers involved in the exhibition denied racist intent, apologizing for hurting certain communities and calling for dialogue. Writing about this event, Camille Okhio wonders when the field will move past the endless and fruitless cycle of "dialogue" to concrete change [Okhio 2023].

Exhibition designers are still influenced by the colonial imagination, and their design choices reflect these imperialist ambitions, which subvert efforts to design a sense of inclusion for visitors and staff [Hills and Middleton 2023]. Hence, to design exhibition spaces that reject colonial framing of others, to decolonize exhibition design, Adrienne Lalli Hills and Margaret Middleton propose creating exhibition environments anchored in Indigenous “creativity, values, and aesthetics systems — a stark departure from design conventions that often feel colonial” [Hills and Middleton 2023, 10].

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The field of exhibition design has the power to “help disadvantaged groups, to raise self-esteem and even to challenge racism by progressing learning” [Golding 2016, 4]. Decolonial, postcolonial, and Black feminist theory have been proposed as lenses through which to counter the tendency to portray Black people and other marginalized groups as less than humans. For instance, Hill and Middleton recommend that designers avoid the decontextualized display of objects behind glass panes because such displays reflect colonial aesthetics in design. In fact, the encapsulation of objects in oak cases, organized according to neat taxonomies, reduces the cultural materials to mere curiosities, thereby exoticizing non-Western, non-white cultures [Hills and Middleton 2023]. Likewise, the design of visitor experiences is often shaped by the colonial imagination in that visitors are expected to only explore and interact with exhibitions in certain ways. Those who do not conform to these unspoken expectations are not considered “good” (code for white, middle-class) visitors [Hills and Middleton 2023]. This colonial perspective on visitors' experience explains recent incidents at the Metropolitan Museum, where a Cambodian artist was kicked out for performing a dance prayer to her ancestral gods in an exhibition of looted religious statues and a Black artist was expelled from an exhibition about Black Rest for asking white visitors to honor the space [Cheam-Shapiro 2023] [Michael 2023]. There is no question that even now, in the 21st century, the field of exhibition design is still struggling with racial issues.

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Creating Meaningful Learning Experiences

As an interdisciplinary field, instructional design places a great emphasis on the design of meaningful learning experiences [Lin and Spector 2017]. More specifically, instructional design focuses on the creation of instructional materials that meet the needs of all students. The instructional designer's goal is to “create something that enables a person or group of people to learn about a particular topic or develop or improve a set of skills or encourage the learner to conduct further study” [Brown et al. 2016, 7]. Instructional design is connected to exhibition design in that both disciplines strive to create meaningful learning experiences, facilitating the public's understanding of various topics through the organization and presentation of information. Interestingly, both fields also aim to prompt the learner or visitor to search for further information [Popoli and Derda 2021].

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The field of instructional design is concerned with the process of systematically designing instructional events and situations. This encompasses iterative processes centering on human learning such as: a) planning the learning outcomes; b) identifying strategies for learning and teaching; c) choosing appropriate technologies; d) selecting educational media; and e) assessing the learner's performance [Branch and Kopcha 2014]. John Sweller notes that instructional design processes include the following major activities:

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- Analysis of the setting and learner needs
- Design of a set of specifications for an effective, efficient, and relevant learner environment
- Development of all learner and management materials
- Implementation of instructional strategies
- Evaluation of the results of the development

These activities have resulted in different instructional models, which are applied according to a particular context to help the designer visualize, direct, and manage teaching and learning situations or materials.

Race and Identity in Instructional Design

It is worth noting that instructional design scholarship is increasingly concerned with issues of race and equity in the field. Ryan Ikeda et al. recognize that the educational system has been designed to create inequity and to contribute to the design of instructional materials that serve as tools for the white supremacist and settler colonial project in the United States. In other words, instructional design models are shaped by racist and colonialist perspectives that need to

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be dismantled to create “a learning model that quickly responds to the slippery machinations of racism” [Ikeda et al. 2021, 28]. Applying anti-racist pedagogy to design implies approaching instructional design as a collective activity by integrating different stakeholders from various fields, including the humanities and STEM, and being accountable to BIPOC (Black, Indigenous, and people of color) [Ikeda et al. 2021]. Anti-racism design also includes designing with awareness of situational factors that can impact student learning; being cognizant of one's positionality through one's various identities, biases, and commitments; and representing that awareness in the design process by examining the role of power in design [Ikeda et al. 2021].

Instructional design makes essential an in-depth understanding of learners, which includes an analysis of the learners' skills, prior knowledge, attitudes toward content, cultural background, and more [Dick, Carey, and Carey 2014] [Kartal, Toprak, and Kumtepe 2018]. However, as Liangyue Lu and Jianping Xu discuss, little attention has been afforded to learners' racial identities and power dynamics among learners, particularly minoritized learners. Yet, by integrating critical race theory (CRT) into an instructional design model, Lu and Xu propose the Motivational Framework for Culturally Responsive Teaching (MFCRT) as a means of attending to learners' racial identities. Indeed, this model centers on developing race awareness, unpacking white privilege, and paying attention to silenced students [Lu and Xu 2020]. Similarly, Michael K. Thomas and Marco A. Columbus suggest integrating culture and identity, particularly African American identity, in instructional design work. Their theory of primary cultural instructional design states that instructional designers must interact with culture and identity by designing relevant and meaningful learning environments that take into consideration communities such as African American learners [Thomas and Columbus 2009]. Addressing the question of culture in instructional design, Patricia A. Young developed the culture-based model (CBM), an intercultural instructional design framework to guide designers through the design, management, development, and evaluation process [Young 2008]. Culture is an integral part of one's identity, with this model, Young points to the fact that minoritized or otherwise unrepresented cultural groups have not been taken into consideration in previous instructional design models. There is no doubt that the growing interest in issues of equity and race within the field of instructional design demonstrates a need to reckon with previous practices that have ignored or neglected certain communities.

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Designing Learning Situations through Exhibitions

As previously stated, exhibition design is an interdisciplinary field that draws from a variety of design fields. Exhibition design plays a critical role in teaching about the past, present, and the future. Yet, its interactions with the field of instructional design are still limited, or rather not explicit. Libraries, museums, and cultural heritage institutions often use exhibitions to democratize access to their collections and educate the public about and around a topic or theme. The act of choosing the exhibition theme and designing its contents cannot be completed without the input of curators, who are often subject matter experts with sufficient knowledge to help the exhibition designer create meaningful exhibition experiences for the visitors.

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Like instructional design, exhibition design is a creative process that involves a variety of design approaches or processes that change with each new generation of designers [Locker 2011] [Barnes and McPherson 2019]. Zoi Popoli and Izabela Derda explain that “exhibition design now requires the combined efforts of multiple specialists throughout most of the creative process” [Popoli and Derda 2021]. Given that exhibition design draws on a variety of skills to inform and teach a diverse audience [Lee 2015], exhibition design should also utilize instructional design processes to create a better visitor experience. For instance, understanding how people learn and how this affects the design of learning environments or events can inform the design of an exhibition.

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Getting Into the Learning Sciences

The field of learning sciences is difficult to define [Lee 2022], but scholars agree that it is interdisciplinary. Victor R. Lee explains that the learning sciences aims “to understand the surprising complexity of real-world learning within and across sociotechnical contexts; to actively use new understandings to design learning environments; and to establish novel approaches for using technology (when it is appropriate) to support learning” [Lee 2022]. Indigo Esmonde and Angela N. Booker add that the field is focused on investigating learning and teaching in a variety of contexts. Using

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approaches from psychology, cognitive science, neuroscience, education, anthropology, and sociology, the learning sciences provide different perspectives on how to define learning and how learning occurs. This includes examining what people should learn, “how we know when they have learned it”, and “which teaching methods, in which contexts”, are most likely to make learning happen [Esmonde and Booker 2017]. Scholarship in the fields of constructivism, cognitive science, educational technology, and sociocultural studies has served as an early influence for the learning sciences [Sawyer 2006]. Hence, the learning sciences also places a great emphasis on the design of learning spaces in different contexts and on the use of technology to support learning [Esmonde and Booker 2017].

The field is further influenced by psychology, sociology, computer science, education and cognitive science, and it contributes various approaches to better understand teaching and learning processes [Luckin and Cukurova 2019]. Daniel Sommerhoff et al. define the learning sciences as “the analysis and facilitation of real-world learning in formal and informal contexts”, with technology being key in helping and scaffolding learners to participate in constructive learning activities. In effect, “cognition, metacognition and dialog are the primary foci for analysis with respect to learning activities and processes, and the learning environment is considered to be fundamental to the facilitation of learning” [Luckin and Cukurova 2019, 2825]. Hence, the field seeks to provide learning opportunities for any learner in any setting [McKenney 2018]. It is therefore not surprising that Shayan Douroudi argues that the learning sciences is an interdisciplinary field that came out of a desire to understand learning in humans and machines, which includes artificial intelligence and machine learning. Interestingly, there is an increased interest in understanding how power participates in the design of learning settings and experiences, as well as how any harm caused by these power dynamics can be mitigated [Esmonde and Booker 2017]. For instance, Betsy DiSalvo et al. explore how designed learning environments can facilitate learners' construction of racial, ethnic, and gendered identities [DiSalvo et al. 2014]. Designing learning environments that empower groups that have historically been marginalized in the context of science, technology, engineering, and mathematics (STEM) can help these learners develop identities with disciplinary agency and support learners navigate the complexities of learning [Tabak and Radinsky 2014] [Thompson 2014]. Yet, as Esmonde and Booker note, the learning sciences have not yet substantively addressed racial issues [Esmonde and Booker 2017]. In effect,

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When we look more closely, we discover that wherever we find social relations, variability of experience and practice, or evaluation of knowledge and learning, we also find dynamics of power. The learning sciences, therefore, must necessarily centre conceptions of equity, diverse experience, and the dynamics of power and privilege expressed in and through learning environments. [Esmonde and Booker 2017, 1]

Questions of Power in the Learning Sciences

The learning sciences is increasingly showing interest in the issues of power, identity, and culture. Scholars are exploring the power dynamics in learning environments [Lee 2022], and more researchers are recognizing that the learning sciences should focus on issues of justice and entitlement in and through learning environments [Esmonde and Booker 2017]. Talia Leibovitz et al. also call for further commitment to racial justice and urgent and vigorous participation in the racial justice initiative. For the authors, this includes learning about social justice through the framework of pedagogies of witnessing [Leibovitz et al. 2024]. However, “the learning sciences possesses limited theoretical underpinnings that make the relationship between power and learning visible, even as the field strives to speak across both a situated, sociocultural tradition and a more individualistic psychological tradition” [Esmonde and Booker 2017]. Consequently, the limited theoretical grounding may explore the limited research on racial issues. For this reason, I assert that Black DH can provide the learning sciences with the theoretical underpinning needed to contend with issues of race.

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Research in the learning sciences that explores ways to support learning in settings such as exhibitions is limited [Hammady and Ma 2019]. Yet, the existing research has already shown that strategies and technologies such as artificial intelligence and games can be used to ensure that learning happens during exhibition visits [Gutwill and Allen 2012] [Yannier et al. 2022]. The learning sciences and instructional design can both can inform exhibition design. Expectations, theoretical commitments, and final products in the learning sciences, instructional design, and exhibition

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design are different yet all three fields are interested in improving and supporting practices and environments that enhance the learning experiences of all, especially underrepresented communities.

Bringing Black DH into the Conversation

Black DH brings to the fore questions of race and racialized systems that have affected and still affect Black people. The field tells the story of a people, working to restore their humanity by using digital tools. Given their interest in organizing information to reach a diverse audience, the fields of exhibition design, instructional design, and learning sciences can be informed by the Black DH. In *Making a Case for Black Digital Humanities*, Kim Gallon, drawing from Kirschenbaum, states the following: “Black digital humanities reflects less an actual ‘thing’ and more of a constructed space to consider the intersections between the digital and blackness... Like race, gender, class, and sexuality — all social constructs, if you will — the digital humanities increasingly hold real meaning and significance in the academic universe. [Gallon 2016]” I draw on Gallon's argument to contend that race, gender, class, sexuality, and all social constructs increasingly hold real meaning in the learning sciences, exhibition design, and instructional design. 19

As such, these fields can benefit from the insights of Black DH practitioners into the intersection of technology and Blackness. Yet, these fields can also bring to Black DH their perspectives on learning and design. The lens of Black DH is critical in examining, analyzing, and providing perspectives on technology and Blackness. I contend that being able to communicate, inform, and even learn about these complex interactions and intersections requires the scholars in the field to think about a) learning; b) exhibition; and c) instructional design implications and applications. In other words, when creating an exhibition, designers should assume the habits of instructional designers by thinking of exhibitions as the process of designing learning spaces with instructional goals and objectives. As Bedford states, regardless of how broad, problematic, select, or beneficial, exhibitions “were designed to educate” [Bedford 2014, 22]. However, “their pedagogies... are neither straightforward nor always comfortable, but rather, multifarious — as troubling and conflicting as they are exciting and inspiring” [Clover et al. 2016, 123]. To summarize, exhibitions are learning spaces [Merriam and Bierema 2014]. Thus, exhibition design can also be perceived as the process of developing spaces that can facilitate learning. Thinking about exhibitions as learning spaces will help exhibition designers integrate visitors (i.e., learners) into the entire design process and support exhibition design with learning theories that can help exhibitions achieve the goal of education. The learning sciences also allows for exhibition designers to find ways to support exhibition visitors' learning, such as by integrating relevant technologies. 20

It is true that Black DH has been essential in the development of the digital humanities, and the work of Black DH practitioners to recover the joy and pleasure of Blackness through digital technologies is ongoing [Gallon 2016]. Yet, I add that Black DH is also a means of creating spaces to learn, talk, and tell stories about Black experiences in a digital world with digital tools. The strategies, technologies, spaces, and ways employed to tell or teach these Black experiences vary in this emerging field. The expansion of Black DH also resides in its conversations and interactions with other disciplines such as those discussed in this paper. The “more critical [Black DH] practices segue into these spaces [e.g., instructional design, exhibition design, and learning sciences] the greater the ability to shape [Black DH and these fields] into places of encounter for [learning], critique, intellectual growth, creative inspiration, and even activism” [Clover et al. 2016, 124]. 21

According to Alexander Weheliye, Black DH interrogates the sociopolitical relations that have racialized and informed the literature, philosophy, and texts we use [Weheliye 2014]. Gallon goes further to say: “The Black digital humanities reveal how methodological approaches for studying and thinking about the category of blackness may come to bear on and transform the digital processes and tools used to study humanity.... [The field] helps to unmask the racialized systems of power at work in how we understand the digital humanities as a field and utilize its associated techniques. [Gallon 2016, 43–46]” 22

Following Gallon, I argue that Black DH can inform exhibition design, instructional design, and the learning sciences. It can help these fields examine the methodological approaches used to design, investigate, and understand learning as it relates to and situates Blackness. It may also transform the processes and tools used to design and analyze learning in these fields. Embedded in Black DH approaches and practices is the critical lens applied to examine and think about 23

Black experiences and Blackness in relation to other concepts, technologies, and practices. For instance, the critical lens of Black DH can help the fields of instructional design, exhibition design, and learning sciences critically engage with technologies employed to design; critically interrogate the means utilized to support learning; and critically examine the concept of power when it comes to design and learning. Through Black DH, we can better explore questions about learning processes and technology use, as well as who has the power to define learning and learning spaces in relation to Black experiences.

The intersection of Black DH with other fields will create new avenues for research and expand research methods and practices for these fields. Black DH lends itself well to instructional design by providing resources and information about the Black experience that instructional design can rely on to create instructional materials that meet the needs of Black students. I contend that Black DH can serve as a critical lens that helps challenge racism embedded in exhibition design and achieve concrete change. Black DH can also act as a source that will ground exhibition design in new practices, design principles, and counter “the ‘cannibalistic’ tendency to trap the ‘other’ behind ‘our’ glass case displays and frame their knowledge according to western criteria” [Golding 2016, 7]. Hence, Black DH can be a source of information for exhibition designers to narrate Black experiences.

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Black DH can further lead these fields to critically examine power in a historical context to make sense of it contemporarily. Such analysis can highlight voices that have often been left out or ignored, as well as the different forms of knowledge and ways of learning and doing that have historically and may still today be considered irrelevant or unimportant. Bridging with these fields creates an opportunity for further questions and findings. Since the emerging field of Black DH is about improving the Black experiences in different contexts, our work should include learning spaces and what it means to empower Black people using various tools, including technology, to tell their stories. In this regard, Black DH can engage in a conversation with these fields, breaking the apparent barriers to transform the Black experience in any setting. As interdisciplinary fields interested in inclusion, design, and learning, they can build upon Black DH knowledge to make greater collective progress to understand, support, and design learning for all. Building on Lina Markauskaite et al.'s perspective on the learning sciences, it is my understanding that the Black DH community has a body of empirical research and prior knowledge to contribute, as well as expertise to advance research on learning in exhibition design, instructional design, and the learning sciences. Simultaneously, Black DH will benefit from these interactions and make progress in its endeavor to positively affect the experiences of Black people in any context or situation.

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Conclusion

Black DH connects and informs Black studies with its practices and the critical lenses it applies to examine methods, digital platforms, and tool applications to Blackness and Black experiences. Through emerging and expanding the digital humanities through other disciplines, such as the learning sciences, exhibition design, and instructional design, will further advance Black DH. Black DH interrogates the relationship between Blackness and the digital as power. Scholars in the fields of learning sciences, exhibition design, and instructional design, can build on this work to question how Blackness is shaped, portrayed, submerged, or even erased through the tools or methodological approaches employed in the study of learning and in the design of instructional materials and exhibitions. Drawing from Lee's writing about how different fields can speak to each other, I argue that scholars from these fields need to connect and initiate collaborations. In other words, Black DH practitioners should start conversations with scholars of the learning sciences, instructional design, and exhibition design, and vice-versa. This will allow parties “to get excited about ideas that other parties are also currently thinking about, and ... have dialogue” [Lee 2018]. My argument is that such exchange of ideas could generate new methods and frameworks to address issues of inclusion, design, and learning for all.

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