Consider the following quotes shared by youth during a classroom ethnography of sixth-grade STEM (science, technology, engineering, and mathematics) learning:

*When you walk into some classrooms, you feel they don’t want you there.* (Sana, 13-year-old)

*Just because my friends don’t speak English they don’t count. I see it everywhere. . . . Like my friend Kiera has so many ideas and no one even knows it.* (Valia, 12-year-old)

These quotes give witness to some of the oppressions minoritized youth experience through the regularities of classroom practice, including otherization, conditional participation/belonging, and dehumanization. These oppressions are not isolated experiences, but systemic and enduring, manifesting daily in local practice in classrooms across the United States (Milner, 2015). Despite decades of reform, minoritized youth continue to be positioned, through dominant discourses and practices, as “missing” or “out-of-place” socially, culturally, academically, and historically, despite their embodied presence in classrooms (Tedesco & Bagelman, 2017, p. 382).

Addressing the ways in which systemic injustices manifest in classroom practice remains a significant challenge in the study of teaching and learning (Artiles, 2011). Systemic injustices are made *invisible* through their regularities in practice. Teachers often unknowingly mete out injustices through quotidian teaching practices. Contemporary equity-driven reform efforts in teaching and learning are grounded in the liberal ideal of inclusion (Martin, 2019). That is, all students should have access and opportunities to participate in discourses and practices central to the disciplines, in ways tailored to their particular needs and socio-cultural locations. However, such calls fall short of embracing the political struggles of those oppressed in classroom settings—in both form and meaning—as *acts of justice* (de Royston et al., 2017). It is in these struggles that relationalities in classrooms, which reproduce oppressive modes of power, are challenged, disrupted, and potentially restructured.

We contend that, thus far, equity frameworks in the teaching and learning of academic subjects have minimally disrupted the
racial, gendered, and linguistic hierarchies in education, while mostly maintaining these oppressive power dynamics (Willis, 2015). In this essay, we argue for a framework of *rightful presence* to guide justice-oriented studies of teaching and learning, using our work in STEM education to illustrate our argument.

The idea of rightful presence emerges from critical justice studies of the potentials and limitations of sanctuary cities serving borderland and refugee communities (Squire & Darling, 2013). Sanctuary cities operate on benevolent, guest (immigrant, refugee)–host (citizens) relationships, where municipal legislation formalizes the rights of immigrants and refugees in response to national efforts to enforce dehumanizing immigration laws and practices.

Being welcomed as guests with institutionalized rights provides access and opportunities otherwise denied to newcomers. However, as guests, newcomers are subject to unequal power relations since the enactment of inclusionary practices are bound to an existing, hierarchical social order (Doty, 2006). By extending a set of institutional rights to newcomers, hosts consign newcomers permanently as guests with attenuated agency, and as responsible to current dominant power dynamics (Shirazi, 2018). Furthermore, hosts are those “privileged enough to be able to choose whether or not to extend the hospitality that appears so needed” (Squire & Darling, 2013, p. 63). For example, sanctuary cities legislate access to schooling and health care and provide volunteering opportunities for those denied the right to work. However, the enactment of these legislated rights is shaped by social structures, such as Whiteness, masculinity, and class privilege. These social structures mediate access in practice and often render invisible the experiences of newcomers (Vrasti & Dayal, 2016).

Rightful presence is predicated upon practices that critique guest/host-powered relationalities and the terrain upon which these relationalities are enacted (Tedesco & Bagelman, 2017). Rightful presence asserts that legitimately belonging in a place, whether it be a sanctuary city or, as we discuss later, a classroom, centers *making present* the political struggles guests embody and experience. These political struggles include the “fraught histories” and “concrete injustices” guests endure across time and settings, often unperturbed by anodyne inclusionary practices (Squire & Darling, 2013, p. 4). To restructure new justice-centered futures, hosting needs to shift from merely extending host-centered rights to actively engaging in processes of *reauthoring of rights with newcomers* through political struggle.

**Discourses of Equity in Teaching and Learning**

**Equity as Inclusion**

There are shared assumptions regarding how and why teaching and learning sustain inequities, especially pertaining to minoritized youth. Inequity is persistent, complex, and made manifest in educational processes and outcomes (Artiles, 2011). Inequities are (re)produced through the social structures of schooling, including assumptions embedded in models of teaching and learning, assessment, and management (Mills & Ballantyne, 2016). Inequity-producing social structures are systemic and have histories in social, political, moral, and economic policies and practices maintained by dominant culture/White supremacy (Ladson-Billings, 2006). Inequities result in opportunity and outcome gaps, realized across historically privileged and disadvantaged groups.

Equity as inclusion seeks to redress the accumulation of many of these systemic inequities by questioning who has access to high-quality learning opportunities. *High quality* typically refers to instruction aimed at supporting all students in learning challenging ideas, participating in discipline-specific activities, and being valued as members of the learning community (Windschitl et al., 2018). Inclusion considers how opportunities to learn mediate outcomes, such as development of disciplinary knowledge and practice, identities, interest, and future pursuits (Horn, 2018).

Inclusion is denoted by the language of contemporary reform efforts (e.g., mathematics and science *for all*; National Council of Teachers of Mathematics, 2000; Next Generation Science Standards Lead States, 2013). Here, inclusion involves the extension of rights to disciplinary learning to *all* students, with special attention paid to ensuring that minoritized students gain access to such rights. Rights extended include access to pedagogies, tools, and materials that can be differentiated to learners needs and sociocultural contexts.

Inclusion also denotes membership into the classroom learning community, as well as to the broader institutions in which the classroom is nested (e.g., disciplinary communities, society), all governed by sociohistorical relations of power, including, but not limited to, White supremacy and dominant patriarchy (Nasir & Vakil, 2017). Full membership into well-resourced learning communities may provide powerful opportunities otherwise unavailable, especially to minoritized youth. However, with rights extended come responsibilities expected. Stringently defined rights demand responsibilities—regarding who one is and must become—that closely align to established structures and practices.

**The Limits of Inclusion**

Reform efforts focused on inclusion do little to disrupt systemic inequities in classroom practice. Framing equity around the extension of rights, while foregrounding the importance of membership, occludes the undergirding relationalities. Although Squire and Darling (2013) address sanctuary cities, this powerful relationality also drives equity as inclusion in classrooms. Students are guests in classrooms and schools, hosted by teachers and school leaders. Teachers, as hosts, mediate access to valuable resources. The power to host allows one to control guests through the very rights extended to them—rights defined and shaped by the territories they are meant to reflect. The power to host also allows one to rescind rights at any moment. For example, students, positioned as guests in their classrooms, are expected to follow majoritarian routines with the threat of social or disciplinary sanctions for noncompliance. In its most benevolent enactments, the host strives to welcome guests. Yet extending rights to guests does not challenge the relational hierarchies in classrooms or the disciplines. Extending rights only provides resources and approaches for making participation in the current constructions of classrooms and disciplines possible.
The very idea of extending rights is rooted in maintaining otherness. The fact that one needs rights continually extended works to inscribe one as perpetually foreign. Inclusion “rests on the implied promise of not radically altering the status quo,” which maintains racialized, gendered, and classed hierarchies (Martin, 2019, p. 469).

Further, the extension of rights to guests is built around individualized notions of justice-to-come, abstracted from relations of power (e.g., dimensions of power operating in canonical Western epistemologies) or context (e.g., who one is, where one grows up, etc.). Equity as inclusion may formalize the rights youth should have in classrooms and provide opportunities otherwise denied. However, it does little to account for whose values undergird these rights and how such rights are enacted in practice. Even more, the extension of rights conceals the reproduction of unjust sociohistorical power dynamics that undergird the set of rights extended. Youth historically marginalized in the disciplines and schooling are expected to reconfigure themselves towards the dominant White, patriarchal, English-speaking culture, regardless of the real and symbolic violence such acts require (Gholson & Robinson, 2019). Such views of equity do not fully account for the political struggles that oppressed others might enact through collective resistance as they draw from their rich cultural practices (e.g., Black love) to inscribe new meanings to their rights in the spaces they inhabit (Kohli & Pizzaro, 2016). The very foundations upon which rights are anchored—that of an assumed, historical establishment—has to be actively forsaken.

“Unless You’re Black”

The lack of an extension of rights to legitimate participation in the disciplines is a fundamental injustice. Work along these lines should not be dismissed. However, only extending rights without attending to the political struggle to reauthor rights is insufficient for disrupting guest/host power dynamics, limiting the possibilities for justice-oriented social change in the here-and-now and possible futures.

Consider Amir, a 12-year-old Black boy, whom the authors encountered as part of a year-long ethnographic study of justice-centered teaching practices across in/formal contexts (Kim et al., 2019). Amir was engaged in a forensic science investigation with his sixth-grade classmates at his local science center as a part of the regular school day. Over six once-a-week full-day sessions, students learned about forensic science, experimenting with different technologies used to generate data about crime scenes (e.g., DNA, fingerprinting, blood type) and how to use these data in evidence-based detective work. The teacher, Mr. A, supported students’ participation in discipline-specific ways—ensuring all students engaged with the hands-on and discussion-based learning activities. His facilitation positioned students to be contributing members of the learning community.

During the last session, students pulled their ideas together in a crime scene investigation. Mr. A explained that they were responsible for gathering and analyzing data so that they could accurately find and convict the right criminal. He emphasized the importance of being fair and using data as evidence. Amir quickly interrupted by calling out “Unless you’re Black! If you’re Black, you’ll be convicted.”

Mr. A seemed caught off-guard by Amir’s comment, responding, “I like the passion in that statement, but let’s make sure we talk about that somewhere else, other than this classroom, at the moment. If you want to talk about that later, we absolutely can.” Amir did not verbally respond, but instead, lightly nodded his head in frustration. Working with friends, Amir completed his work as expected, with animation and rigor. He stated that he liked most of his forensic science class. He did not talk to his teacher about this topic later.

Mr. A told us that this moment hit him “really quick[ly] because it’s a very powerful thing to say.” He also noted that talking about racism and forensics was “challenging” to do “in front of a whole group of students, when all these students come from different backgrounds.” He remembered that he “gave Amir a smile. I didn’t want him to think what he said was wrong.” Mr. A further explained that he thought Amir understood, from their exchange, that science class was “not a place to bring up politics.”

Having lessons at the science center afforded Amir opportunities to leverage resources he might not otherwise have had at his school. Simultaneously, his comment put these rights in tension with the political struggle of being Black in the White-dominated spaces of the criminal (in)justice system and STEM. Amir’s experiences of injustice in STEM and society, where the criminal (in)justice system systemically inflicts injustices upon Black bodies (Alexander, 2012), were amplified by having his concern sidelined as not the focus of class.

Mr. A, the institutional representative of these rights, welcomed Amir as he extended these rights, but was unwilling, in-the-moment, to engage with Amir, to reauthor such rights in his learning community. This interaction had both embodied and epistemological consequences. Amir’s Black body was disavowed in this moment. Further, the injustices historically borne by Black bodies were effectively elided from their study of forensic science. While Amir actively participated and demonstrated learning of the key ideas through his accomplishments, the possibilities for disrupting the local production of systemic inequities were suppressed. The extension of rights to participate, in this case, still invalidated legitimized discussions of how the norms governing forensic science are racialized.

A Black child may never fully have a rightful presence in the American criminal (in)justice system as it is currently constructed. However, pedagogical strategies, such as those that might engage in refusal in and of antiblackness (Martin, 2019), which makes present and problematizes such fraught histories, could make space for legitimized discussions of the racialized dimensions of forensic science towards a more rightful presence for Amir/Black students in STEM class. The political struggle of making present Amir’s embodied understanding of forensic science could open up new learning trajectories that make movement towards his more rightful presence in this setting possible.

Beyond Equity Towards Rightful Presence

Rightful Presence in Teaching and Learning

What rightful presence offers teaching and learning exceeds the limits of equity. Rightful presence, as a justice-oriented political
Consider Davis and Schaeffer’s (2019) study describing how a teacher engaged her Black elementary students in an investigation of water as a resource “with dynamic molecular properties,” but which has historically “been limited, compromised, and intentionally withheld from nondominant communities” (p. 3). Not unlike Amir in his study of forensics, the authors illustrate how the study of water “unjustly” places children, with fraught water relationships, in “unteachable epistemological positions” (p. 3). However, as children engaged in critical dialogue over the multiple dimensions of the Flint water crisis (a nearby city), they were supported in expressing social, emotional, and political ideas and embodied experiences as a part of studying water. Through the investigation, children developed critical, systemic explanations of environmental justice, alongside complex and embodied understandings of the relationalities between nature and culture (e.g., bodily consequences of water deprivation), reauthoring what it meant to learn science.

Table 1: Undergirding Assumptions of Equity as Inclusion and Rightful Presence

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Rightful Presence</th>
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<tbody>
<tr>
<td>Extension of a set of rights</td>
<td>Political struggle is integral to disciplinary learning: the right to reauthor rights (Tenet 1)</td>
</tr>
<tr>
<td>Located in the abstract future</td>
<td>Rightfulness established through presence: making visible the intersections and justice/injustice in the present while orienting towards new social futures (Tenet 2)</td>
</tr>
<tr>
<td>Burden/cost of the enterprise borne by the othered, who seeks membership</td>
<td>Shared burden/cost between currently powered and the othered (Tenet 3)</td>
</tr>
<tr>
<td>Culture of hospitality, involving an ethical commitment to leverage guest/host relationships towards equitable ends</td>
<td>Culture of disruption towards justice, where modes of power/authority are collectively called in question (Tenet 3)</td>
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</table>

Tenet 1: Allied political struggle is integral to disciplinary learning: the right to reauthor rights. The first tenet focuses on the idea that the extension of a set of static rights, without accompanied political struggle, is problematic. It suggests that the political struggle to reauthor rights is integral to what it means to learn. When allies, such as teachers, help students to challenge and transform what participation in the disciplines entails or what meaningful representations of learning look like, they are engaging in politically oriented acts of reauthoring rights as a part of disciplinary learning. Such modes of support involve both pedagogical and ideological commitments (Philip et al., 2018) in that they shape opportunities for humanizing participation by valuing students as cultural and whole people, whose knowledge/wisdom, experiences, and fraught histories are integral to disciplinary learning. Such modes of support also position students’ lives as more than individual resources for learning but, rather, as shared reflections of historicized experience that can open up new, more empowering, learning trajectories (de Royston & Sengupta-Irving, 2019). Further, when political struggle as a shared burden is viewed as a part of disciplinary learning, reauthored rights—such as those challenging whose ways of knowing and being matter, how and why—gain legitimacy in classrooms.

Consider Davis and Schaeffer’s (2019) study describing how a teacher engaged her Black elementary students in an investigation of water as a resource “with dynamic molecular properties,” but which has historically “been limited, compromised, and
Tenet 3: Collective disruption of guest/host classroom relationalities: amplifying the sociopolitical. Rightful presence foregrounds the need to disrupt normative knowledge/power relationalities in classrooms grounded in White, patriarchal dominance, among others. However, disrupting these relationalities necessitates a collective and iterative endeavor shared between the more powerful and the historically less powerful. That is, how rights become reconstituted involves actions by those seeking the right to reauthor rights and those authorized to extend rights, shifting the social hierarchies of classrooms.

This shared commitment to collective disruption focuses on how individual outcomes are an extension of social transformation, reconfiguring the discourses and practices of who, and what, legitimately belong in the disciplines and society. We see this as a concerted effort to identify and amplify the sociopolitical (e.g., disrupting social hierarchies) and its intersections with the epistemological (e.g., what it means to know and do) within disciplinary learning. Further, as acts of justice accumulate over time and scales of activity (interpersonal interactions, whole class activity, school-wide policies), they can render new forms of power and positionality, opening further opportunities to support political struggle.

Rubel et al. (2017) describe how one teacher used a trio of embodied mapping tools to support mathematical meaning-making while also making visible the persistent socioeconomic and place-based inequalities affecting nondominant communities. An oversized neighborhood floor map allowed student experiences to become the terrain for learning. Geographic information system (GIS) maps layered race, power, and inequality as factors shaping the distribution of alternative financial institutions. Participatory mapping amplified the social-mathematical processes that take place within these institutions. Salient to this tenet, the three mapping tools together produced new classroom discourses, reorienting individual counterstories into a collective disruption of majoritarian stories about their neighborhood, mathematical practices, and schooling. These acts supported students in their own political formation, for example, learning mathematics through investigating the unfair collective impact of social systems. They also remediated the knowledge/power relationalities, shifting what counts as knowing in mathematics and why, as well as the nature and boundaries of participation in mathematics/community.

These tenets are offered as starting points for what it may mean to work towards rightful presence in teaching and learning. We now turn to a vignette from a 4-year study with middle school teachers seeking to implement justice-oriented teaching (Calabrese Barton & Tan, 2019) to illustrate these tenets and emergent tensions.

“The Occupied”: Possibilities and Tensions

Consider the students in Ms. J’s sixth-grade classroom who designed and built a lighting system that allows classroom members to know when the class bathroom is occupied as part of an engineering unit on sustainable communities (Calabrese Barton & Tan, 2019). Their school is located in one of the most diverse areas of the city, and serves students from immigrant and multigenerational Black, Latinx, and White neighborhoods. In this school, classroom bathrooms do not lock.

Three youth—Meg (White girl), Mateo (Latino and Indigenous boy), and Trynn (Black boy)—designed and built “the Occupied” to solve the problem of bathroom barge-ins. The Occupied used the bathroom light as a switch to activate a solar panel, which powered three LED lights, in parallel circuit, affixed to the bathroom’s outer wall. When the bathroom light is turned on, the LEDs on the outer wall light up. Meg indicated, “Sometimes kids make a mistake. We want to stop the kids who do this on purpose” and “then spread rumors” about the students barged in upon. Mateo explained, “Tomas got walked in on twice! Now he never goes to the bathroom during the day. . . . In the sixth-grade hallway, they make up rumors. It’s ridiculous.”

In this case, targeted bathroom bullying through intentional barge-ins was a political struggle for most boys of color in this class. The unfolding of this political struggle took place across many moments and required a shared commitment among Ms. J and her students.

With teacher support, students studied the bathroom problem by conducting, then analyzing, surveys, interviews, and observations in their school as a part of STEM class (Tenet 2: Making Justice/Injustice Visible). They used these data to design a way to implement their lighting system so that it could effect change. As students built and refined their prototype, they were encouraged by Ms. J to reenact the barge-ins to test real-life scenarios, promoting class-wide dialogue on the problem of bathroom bullying (Tenet 1: Right to Reauthor Rights). During these reenactments, Mateo, who struggled to find success in school and whom his teacher described as having a “sad” history, started role-playing the master electrician, wearing his uncle’s electrician shirt. He brought in electrical tape and told stories of building circuits with his uncle from the age of 3 onwards as he roamed the room helping other groups (Tenet 3: Amplifying the Sociopolitical).

These moments made increasingly present how systemic injustices operate through classroom regularities and that their maintenance and disruption are necessarily collective endeavors. However, tensions emerged as the class collectively engaged in political struggle, and Ms. J began to understand her role differently.

Allied political struggle required Ms. J to recognize she was not the sole expert, and she needed to learn with/from her students (Tenets 1 & 3). This was not easy. She desired her students to successfully learn STEM, but was unsure of how to help them as they sought to integrate their struggle into STEM. Ms. J said she was “uncomfortable” and “unsure” of her own practice, as students designed and built a project she, herself, could “never have imagined.” The Occupied also required greater technical expertise than required by the standards, leading her to worry whether “this group . . . can get this done” and about her own ability to help: “I just wasn’t sure I could help them!” She also did not know if the project would work in her classroom.

Ms. J extended the right to high-quality STEM learning through supporting deep engagement in engineering. She also slowly, but more consistently, began to rely on group members’ expertise when she did not know how to help. Further, by
grounding engineering design in students’ meaning-making of community data, she opened herself to making present the political struggle of bathroom usage while diminishing fear of oppressive repercussion. Students had space to introduce this discourse as a legitimately welcomed, epistemological dimension to engineering (Tenets 1 & 2).

Ms. J stated that the Occupied changed her views on barge-ins, impacting her practice. She noted how important it was to position students as experts and critics on what they were learning. Furthermore, although a successful, experienced teacher, Ms. J acknowledged that she had to come to terms with her own role in reproducing bathroom injustice. She felt vulnerable, as a veteran teacher, in acknowledging she missed this inequity. She admitted to being “unaware” of the racialized impact of bathroom barge-ins, not wanting to believe the racialized patterns—“it can be a problem sometimes, but it’s kids being kids.”

As Ms. J felt her attention shift to what justice could mean in the here and now, Ms. J further supported students whom she noticed were working together to call out injustice (Tenets 2 & 3). For example, she described several occasions where students collectively called out “the lights are on” as barge-ins occurred, increasing awareness of its frequency, and by/to whom it happened. Months later, according to the student-creators, everyone “could see” how barge-ins related to bullying, and that their design reduced barge-ins. Students’ ongoing engagement with bathroom barge-ins, through the Occupied, led to new discourse threads in their classroom on the prevalence of bullying in school and its disproportional impact on boys of color. These discourses became seminal to what it meant to learn and be an expert in STEM (Tenet 1). When children in other classrooms learned about this design, they lobbied for its installation—by peer inventors—in their classrooms, too.

Conclusion
With this essay, our goal is to seed, with the rightful presence framework, what we consider an important and urgent conversation for the education field. We have argued that beyond inclusionary practices, working towards justice in teaching and learning demands a collective struggle for the rightful presence of youth historically marginalized in schooling and society. Whether/how the expansive aspects of fully lived lives are elemental to learning depends upon whose lives are lived in any given moment in any given space.

The rightful presence framework asks reformers to shift away from inclusionary (e.g., “for all”) foci where the impetus is on the individual to assimilate into the culture of power or remain marginal to the learning community. Instead, the framework refocuses reform on the locally conditional ways in which normalized learning can be disrupted and transformed through engaging in political struggle against Whiteness and patriarchy. Political struggle is ever-present in the daily practices of teaching and learning, whether recognized or not, and is central to opportunities to learn (de Royston & Sengupta-Irving, 2019). Local political struggles are the place-based instantiations of systemic injustices played out in real time, enacted through social negotiations. This points to the imperative for policies addressing teaching and learning to directly identify how educational and disciplinary systems of power maintain structural racism and other intersectional oppressions (Gillborn, 2015).

Further, the framework asks reformers to attend to transformational social change as foundational to individual learning. Rightful presence calls attention to liberating youths’ embodied present, rather than some distant future. Rightful presence challenges what has been considered legitimate, possible and desirable within disciplinary learning. How learning unfolds in ways that allows injustice/justice to be made present and acted upon towards the re-authoring of rights in classroom spaces, is critical.

Although the field centers the translational work of theory to practice, we believe that a rightful presence framework argues for greater attention to the need for translational work from practice to theory. We suggest new policy (albeit inchoately sketched through the enactment of new practices toward rightful presence) is currently being authored on the ground in grassroots efforts to design for and support minoritized students’ rightful presence in academic learning by careful attention to the sociopolitical dimensions of teaching and learning (e.g., Kohli & Pizarro, 2016).

What evidence might indicate that students are developing a more rightful presence in classroom learning? For starters, rightful presence assumes that one has say in the what, why, how, when, and for whom of everyday life in the environment in which one rightfully has stature. Another indicator of a nonguest is the evidence of material artifacts that literally “claim space” for a specific, rightful person, that signal one’s assumed presence. In the classroom, an example of such an artifact would be the Occupied—student-produced disciplinary-based artifacts with an afterlife that endures to solidify the rightful presence of its creators and those whom the project serves. Markers of rightful presence therefore include shifts in the positionality and performative range for minoritized students and the physicality of classrooms, whose “stuff” is evident and conspicuous.

How might educators be supported in learning to teach in ways that promote a more rightful presence for minoritized students? More expansive views of classroom instruction and relationalities are required. Teachers will need support in developing strategies to notice and make present the lives of their students as integral to disciplinary learning, and as powerful lenses for exposing/restructuring the injustices that position youth as marginal to learning. Teachers may need support in developing caring and embodied understanding about the institutional nature of oppression and their students’ experiences with it (Daniels & Varghese, 2019; de Royston et al., 2017), as well as in translating how this matters in disciplinary learning. New insights are needed on how this kind of learning can happen within pedagogical approaches for disciplinary learning, not separate from them.

The sociopolitical nature of rightful presence struggles presents risks to teachers, whose agencies may be curtailed by institutional norms reproducing systemic oppressions. However, minoritized youth have, across generations, borne the oppressions of not engaging such risks. As one youth urgently pointed out, “I am a kid NOW.” As a field, we dither at the cost of youths’ continued and cumulative marginalization.

The tensions inherent in the collective struggle for rightful presence lie in both the willingness to acknowledge the need to colaber for rightful presence and in translating this complex idea into concrete pedagogical and schooling practices and policies.
Garnering insights on such practices and policies would be productive to the field moving forward toward justice.

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REFERENCES


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