Why is thinking about power and historicity important?

Power and historicity permeate all aspects of socio-ecological systems. This framework provides an overview of the ways power and historicity, as well as some routine dimensions associated with power and historicity in a US context, are present in learning environments and shape interactions at individual and institutional levels. This framework is intended to articulate some key concepts, and can support the development of orientations and practice that transform normative forms of power and privilege and engage learner, family, and community agency towards ethical, just, and sustainable forms of learning and being.

**Historicity** refers to cultural perceptions of the past, the principles, experiences, and values that shape these perceptions, and how historicized practices, tools, and information continually and consequently **shape the present and future**. Importantly, historicity is distinct from history—or the concept of clear “fact”—and fundamentally recognizes that positionality is always shaping what is observed, known, or even considered, and further, how narratives and meaning are construed. Central to the idea of historicity is the recognition of systemically constructed power dynamics that structure relations between and among individuals, communities, and institutions (involving humans and more-than-humans). This includes, at minimum, political, social, technological, and industrial dynamics that are intimately intertwined with place, race, class, gender, and sexuality, amongst other dimensions.

**Power** is ubiquitous in social systems and how power is understood has consequential impacts on what is seen as important to act on. Power is not inherently good or bad, rather it is a question of how it is utilized and why. In our frameworks we highlight two meanings of power: 1) systemic power and 2) individual and/or collective agency.
Systemic power

Systemic power reflects the extent to which specific ways of knowing and being are legitimated, valued, or promoted by formal institutions. This includes peoples’ or communities abilities to access, shape or consequentially influence societal structures and governing institutions. Systemic power is also often reflected in who has access to services and goods or how resources are distributed. People who benefit from and have access to systemic power have or are privileged. In social systems, privilege is often determined by race, gender identity, and class within larger social and political structures. Systemic power often determines whose knowledges’ are valued, what is seen as important to know or learn about in educational settings and what is narrated as a good way of being or acting. This can mean whose cultural practices and identities are reflected in schools. For example, the systems of knowledge that are reinforced and reproduced in learning settings–such as nature–culture orientations–typically reflect middle class, Western European legacies. Power also operates as a mechanism for gatekeeping the presence, participation, and engagement of young people, particularly young people of color (both physically and intellectually) in some educational and scientific endeavors. Importantly, educators are in positions of leadership and thus hold power in learning environments. This is most evident in whether learners are seen through an intellectual or sensemaking lens, or through a behavioral lens. Moreover, educators as adults are often in positions of power when they work with learners who are children and tend to underestimate the intellectual and ethical deliberations children are engaged in. Finally, educators often work within institutions with historicized powered relations with communities and families that affect how–and with whom–they share their power. This is especially important to recognize given that the teaching force in the United States is over represented by white women. This means that the field of education is vulnerable to the implicit and explicit bias and powered dynamics of this dominant population. Educators often forget that education has been a deeply and problematically cultured, raced, gendered, and classed endeavor and has routinely been the site in which harm to non–dominant families has been inflicted.

Individual and/or collective agency

While systemic power is vitally important to recognize, it is also important to recognize the ways in which individuals, families, and communities have continued to create ingenious ways to continue their cultural traditions, pass on their ways of knowing, and thrive despite systemic forms of oppression. An important aspect of agency is to recognize the complexities of peoples’ identities and experiences. One important dimension of identity is intersectionality, which refers to the multiple identities that a person can hold, and the ways that power and privilege operate within these identities. Because of intersecting identities, an individual may have privilege in some aspects but not in others. Intersectional identities include: race, culture, gender identity, ability, sexuality, and more. Recognizing both the challenges and well as strengths developed through identity and powered dynamics can be thought about as recognizing collective agency. Individuals and collectives routinely push back on systemic forms of power in overt and implicit ways. This is especially important to recognize in educational settings where families and learners often articulate issues to educators that may explicitly or implicitly trouble normative forms of power and historicity. Further, learners often find ways to express themselves and to explore ideas even when educators do not recognize them as doing such. An important shift in educator sensibilities can be towards always assuming that learners are on task and working to make sense of their ideas. Important to this work is recognizing that there are a wide range of ways to do this that may vary from normative expectations. For example, significant amounts of research has demonstrated that teachers often perceive that learners who are engaged in making jokes or are laughing are not on task. However, often students are deeply on task and connecting ideas to their everyday life or utilizing everyday ways of talking.
Race and racialization

Race is both socially real and socially constructed. It is not a true biological phenomena. Race began as an idea that the human species is divided into distinct groups based on inherited physical and behavioral differences and asserted that the white race were superior to the other races. These ideas began in the 15th century to legitimize European conquest and have persisted in various forms until present day. However, contemporary scholars and scientists have found no credible evidence for any biological claims to race, instead contemporary views of race see it as a social construct that consequently organizes people and crassly demarcates cultural communities and historicized experiences imposed because of perceived phenotype. Importantly, the process by which race becomes meaningful—often called racialization—continues to be a predictive social construct as well as a social identity both self-determined and socially imposed. Racial identity is an important aspect of one’s identity and people both develop their individualized racial identity as well as their racialized group identity. This is especially true for students of color. Importantly, and problematically, white students are often not positioned to have to explicitly grapple with their racial identity and group membership.

Racism can and does manifest in individuals as well as the systemically or institutionally. One might not hold racist beliefs but can still participate and perpetuate racist systems.

Individual racism refers to an individual who believes that a particular race is superior or inferior to another, that a person’s social and moral traits are predetermined by his or her inborn biological characteristics. Often individual racism manifests in patterns of racial discrimination that stems from conscious and unconscious, personal prejudice. Individual Racism is connected to/learned from broader socio-economic histories and processes and is supported and reinforced by systemic racism.

Systemic racism includes the policies and practices entrenched in established institutions, which result in the exclusion or promotion of designated groups. It differs from overt discrimination in that no individual intent is necessary. It manifests itself in two ways:

1. Institutional racism: racial discrimination that derives from individuals carrying out the dictates of others who are prejudiced or of a prejudiced society
2. Structural racism: inequalities rooted in the system-wide operation of a society that excludes substantial numbers of members of particular groups from significant participation in major social institutions.

Educational institutions have been and continue to be systemically racist.

Colonialism & settler colonialism

Colonialism can be generally thought about as the processes of a country or group of people seeking to extend or retain its authority over other people or territories, generally with the aim of economic and cultural dominance, often manifesting in espoused racialized supremacies. In the process of colonization, colonizers may impose their religion, economics, and other cultural practices on the peoples Indigenous to the targeted territory, often done in very violent ways. The foreign administrators rule the territory in pursuit of their interests, seeking to benefit from the colonized region’s people and resources. Often places are founded through processes of colonialism but colonialism is then often seen as an historical event that ends and a different era emerges.

Settler-Colonialism is a form of colonialism that seeks to replace the original population of the colonized territory with a new society of settlers. Settler colonialism, unlike colonialism, is an ongoing structure in society, not a time specific historical event. As with all forms of colonialism, it is based on exogenous domination, typically organized or supported by a foreign authority. Settler colonialism is enacted by a variety of means ranging from violent depopulation through genocidal policies of the previous inhabitants to more subtle, legal means such as assimilation or constrained recognition of Indigenous identity and sovereignty within a colonial framework. The colonizing authority generally views the settlers as racially superior to the previous inhabitants, which often gives settlers’, or what becomes the new nation’s citizens, social movements and political demands greater legitimacy than those of the Indigenous peoples.
How to use this framework

**Collaborative Practice:** Western educational institutions have been set up to isolate educators and learning settings from families and communities, leading to power imbalances that marginalize learners and communities of color. Disrupt these power imbalances by collaborating with fellow educators, families, and community-based organizations to bring heterogenous knowledges and practices into the learning environment.

**Learner Sense-Making:** Intentionally draw on learners’ family and community knowledges and practices, and make connections between their lived experiences and scientific inquiry and field investigations.

**Planning and Implementation:** Guide your planning and implementation by designing learning activities that identify, address, and dismantle power imbalances both at micro and macro scales. Research the histories of places in which you live, in which your learners live, and related to the site where learning is taking place (like a school, museum, neighborhood organization). Plan to incorporate heterogeneous family and community knowledges and practices in the design of tools and learning activities.

**Co-Design and Assessment:** Reflect on how the design of your instruction contributes to or actively works to disrupt power imbalances in the learning environment. For instance, whose ideas typically get voiced and heard and why? How are learning activities and resources made accessible and distributed to learners’ families? How do you assess what learners know, think, do, and apply? Do you use normative forms of assessment, or do you ensure that learners have choice in how they perform and otherwise showcase what they have learned?

**Educator Reflection:** Reflect on your own intersectional identities, how these are historicized, and the ways in which you have been afforded power and privilege because of these identities. For instance, if you are a formal (or informal) educator, you are in a position of power when interacting with children and their families due to historicized relationships between learning institutions and marginalized communities, as well as between children and adults.

**Connections to expert thinking:**

Science is often characterized as an “objective” field, devoid of bias separate from the sociopolitical contexts in which it is done. However, research in the cultural studies of science have shown that scientific fields are shaped by the cultural contexts and individual biases of researchers. For example, Charles Darwin, who many attribute to be the “father” of theories of evolution and natural selection through competition. These ideas—of success through competition—were influenced by dominant thinking of his time, around free market forces.

“Yet, like all humans, Darwin brought culture with him wherever he traveled. His descriptions of the workings of nature bear resemblance to prevailing thinking on human society within elite, English circles at the time. This is not a mere coincidence, and tracing his influences is worthwhile. It was, after all, the heyday of classical liberalism, dominated by thinkers like Adam Smith, David Hume, and Thomas Malthus, who valorized an unregulated market. They were debating minor points within a consensus on the virtues of competition. In an especially humble (and revealing) moment, Darwin characterized the principles underlying his thinking as naught but “the doctrine of Malthus, applied with manifold force to the whole animal and vegetable kingdoms.”

Key Dimensions of Identity and Relations in Power and Historicity

There are multiple dimensions and scales at which power and historicity operate. These range from power imbalances at institutional or structural levels to day-to-day interactions between children and adults. The intersectional identities of learners, their families, and educators are always interacting with one another, and reflect deeply powered and historicized relationships. There are five dimensions of relations that the Learning in Places project emphasizes—however please note there are others! These relations are key sites in which power and historicity has and continues to accumulate and are important relations for educators to be intentional about disrupting normative assumptions. These include the following:

- **Child-Child (peer to peer):** Learners are influenced by adults and systems, and often reproduce these powered dynamics in problematic ways. Educators need to develop ways to disrupt power and historicized assumptions and interactions between learners.

- **Child-Adult:** Powered dynamics between adults and children are ubiquitous. It is important for educators to consider how they are enacting power with children. Some forms of power may be for their best interest, but often educators engage in forms of racialized adultification that treat children of color in problematic ways.

- **School-Family:** Interactions between families and most educational institutions and organizations have histories of power imbalances that are raced, classed, and gendered. It is important for educators to be intentional about learning from and with families to address power imbalances. (see Family and Community Engagement Framework)

- **School - Community:** Families are part of robust communities, which often have central places for learning and cultural thriving, which are rich for learning from community and cultural perspectives. Schools, however, often partner with learning environments that mirror schools or academic-based learning (e.g., field trip to museum), which reinforces dominant forms of knowledge and power. Cultivating relationships with communities means repositioning communal knowledges’ and practices as central to learning and identity development in everyday instruction and pedagogy.

- **Human-Place / Nature:** Human relationships with places and the natural world vary by culture and community. However, educational institutions are typically rooted in the dominant model of the West—one of human supremacy and resource extraction. Educators can actively dismantle this powered orientation in their learning settings by learning with and from learners’ and their families’ relationships and orientations to the natural world.

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**Micro-Meso-Macro Systems** - Power and historicity operate at multiple scales - often simultaneously. The impacts of power are deep and pervasive, and range from the interactions between people, people and institutions, institutions and the environment, and so on.

- **Micro-systems:** This includes day to day interactions between humans, humans and artifacts (such as books, media, tools, etc.), humans and more-than-humans, more-than-humans with one another.

- **Meso-systems:** This includes the family- and community-level interactions. Meso-systems are macro- and micro-systems interminge. Large-scale historicities and power imbalances are lived experiences that play out in family or community dynamics, and impact (and are impacted by) individuals’ intersectional identities and privileges.

- **Macro-systems:** This includes the social, environmental, institutional, and political imbalances of power and dominance. Power imbalances in macro-systems are evident in race- and class-based inequalities such as access to resources and resource distribution.
Connections to the Learning in Places Rhizome:

**Complex Socio-Ecological Systems:** Socio-ecological systems refer to the interactions between human systems and ecological systems. The underlying premise is that humans are part of the natural world, and all of our systems (e.g., social, political, institutional) are always in relationship with ecological systems. Importantly, the relations within these systems are deeply powered and historicized. For example, in the settler-colonial nation-state, political and institutional decisions based on resource extraction and human-dominate have led to socio-ecological imbalances that disproportionately affect marginalized communities, communities of color, and more-than-human communities.

**Culture, Families, and Communities:** All learning is culture, and family and community knowledges and practices need to be at the forefront in order to create equitable models of learning and instruction. Centering families and communities in learning environments is a step towards addressing historicized imbalances between schools and communities, between teachers and students or families because it recognizes individual and collective agency—particularly for those that have been historically marginalized in academic settings due to systemic racism or other power imbalances.

**Field-Based Science Learning:** Field-based science learning involves learners observing phenomena and conducting investigations in the natural world. However, not all communities have the same relationship with the outdoors. Outdoor learning spaces are often perceived as “white” spaces, and people of color—particularly Black and Brown individuals—often feel unsafe and explicitly oppressed in these places. Creating just, equitable, and ethical outdoor learning opportunities for all learners means educators must first recognize that this is deeply historicized and rooted in a settler-colonial narrative of white supremacy. For example, invisibilizing Indigenous peoples from teaching about the land is and continues to be a settler colonial strategy to increase white power and decrease Indigenous sovereignty. Teaching field-based science, teaching about the Histories of Places, as well as peoples’ varied relationships with the land, is one way to actively dismantle these powered relations. This also means being aware of inequitable policing BIPOC (Black, Indigenous People of Color) bodies and minds, and learning to see the diversity of ways that sensemaking can look and sound like while learning outdoors.

**Power and Historicity:** Learning about socio-ecological relationships is not neutral, but is complexly tied to learners’ historicized relationships with institutions of place, power and privilege. For example, relationships between educators, students, and families reflect generations of accumulated and disparate power dynamics that shape how learning unfolds across classroom, home, and community. Taking a justice-oriented stance to teaching that disrupts hierarchies of power and privilege requires deliberate sensemaking about social and ecological ethical possibilities for learners and their families and communities, particularly those that have been historically, and continue to be, marginalized. Nature–Culture Relations, or the relationships between humans and the natural world, vary across cultural communities. The models of nature–culture relations, that is whether humans are construed as a part of or apart from the natural world, structure educational pedagogies and learning activities. Often, in Western educational institutions, and science education more specifically, humans are positioned as apart from the natural world. For example, this is evident in the use of the term “resources” when referring to the natural world. Because of the power imbalances between educational institutions and families—particularly from marginalized communities—learners may not feel comfortable sharing different perspectives of nature–culture relations.
Appendices

The following appendices provide examples and other supports to help educators use and then deepen their use of the Power and Historicity Framework over time. Appendix A is a vignette that showcases one example of how a teacher used this framework. Appendix B contains some example data to highlight how power and historicity impact young learners’ sense making. Appendix C is a back pocket guide with scaffolding questions to address and disrupt power imbalances in learning environments. Appendix D is an example checklist that educators can use as they design learning environments, including assessments, to support learners’ sense-making and decision-making in ways that disrupt hierarchical power imbalances.

APPENDIX A

Vignette

PLANNING FOR INSTRUCTION:

Ms. Porter is a second grade teacher and is planning an observation walk in which students will look for plants that have bees on them in the field near the school. Ms. Porter planned this activity after reading the Observations and Data Collection Framework, which emphasizes the importance of engaging in routine observations in places as a way to deepen understanding of a focal phenomenon. Ms. Porter’s class had already been on a number of observation walks, and the class had a “Should We” question in mind—Should we mow the grass in the field next to the school?—that the class had developed after Ms. Porter explored the Wondering, Should we, and Investigations framework. In the current walk, they are going to make observations about what plants are growing in the field, and if there are any bees on plants. Students would then write or draw what they noticed was above, around, and below the plants in the field. The prompts in this activity stemmed from Ms. Porter’s understanding of how to support reasoning about socio-ecological systems, outlined in the Complex Socio-Ecological Systems Framework—which included observing phenomena across multiple spatial and temporal scales.

LAUNCHING INSTRUCTION:

Ms. Porter’s students worked in groups of 2 or 3 to walk and record their observations. There were two adult helpers joining along for the walk, a parent and an instructional aide. Ms. Porter, a white, middle-aged woman, spent most of her time with a group of three students—Louis and Manny, who are Black boys, and Sarah, who is a white girl. Before going on the trail, Ms. Porter reminds the students about the activity and what they should be looking for.

ON THE TRAIL:

The class spreads out in the field that borders the school grounds. It is a sunny day in late April, and many flowers are beginning to bloom. Although in the same group, Manny, Louis, and Sarah are spread out, making observations and mingling with other groups. Ms. Porter spends most of her time near Louis, a student with whom she feels she has a special relationship. More specifically, Ms. Porter has frequently expressed the sentiment that because Louis grew up in a large household, like herself, she believes that she needs to provide him with extra attention—and even supervision—in a “caring” way. Louis is excited and noticing a lot of different phenomena. For example, when he hears the parent talking with another student about some of the clovers growing in the ground, he starts looking for other clovers in the field. In his excitement, his voice gets a little louder and he starts to walk quicker. While this level of excitement, and
the accompanying behaviors, is very common when many students (and adults!) observe and learn outside, Ms. Porter becomes increasingly uncomfortable. She frequently asks Louis to stay near her, and tries to ask him specific questions. However, when Louis responds, Ms. Porter often does not listen to the response, and instead repeats questions, following a particular line of inquiry instead of asking him to elaborate. At one point, Louis looks over and notices a large branch in the middle of the field, even though there are no trees directly above them. With great enthusiasm, he yells out that he found a “huge stick!”, and begins to nudge it with his foot. Sarah, who is standing nearby, asks Louis to “stop kicking the stick” because it’s making her uncomfortable and she thinks he should leave it alone instead. Louis continues to nudge the stick and ask what it’s doing in the middle of the field, and although his actions are not against any rules (or putting anyone in harm’s way), Sarah repeats that she doesn’t want Louis kicking it. Hearing this, Ms. Porter walks over and firmly asks Louis to stop. He continues to ask, “what is a stick doing in the middle of the field?”, and Ms. Porter then asks him to walk over to the edge of the field with her.

When they get to a shaded spot away from the group, Ms. Porter asks Louis why he was kicking the stick after Sarah asked him to stop. Louis replies that he was not, in fact kicking the stick, but was nudging it with his foot. Ms. Porter reminds him that Sarah had asked him to stop, and he again repeats that he was not actually kicking it. Ms. Porter tells Louis that his behavior is inappropriate, and that when Sarah asks him to stop, he needs to listen. Louis, feeling deflated, walks back to the group to apologize to Sarah.

In this moment, Ms. Porter’s intersectional identities as a white woman, adult, and teacher represent a deeply historicized and powered hierarchy over Louis, a young Black boy who is a student in her class. In her interaction with Louis, Ms. Porter exerts control over Louis in multiple ways–physically and intellectually. For example, Ms. Porter asks Louis questions but does not engage with his answers, which reflects the invisibilization of Louis as an intellectual participant in the learning environment. Physically, she remains in close proximity to Louis, and continually polices his movements and behaviors. Whether or not Ms. Porter is aware, her power over Louis is steeped in multiple forms of historicized, systemic racism–both institutional and structural. Institutionally, the policing of Black bodies, particularly male, is prevalent in our society and stems from structurally maintained inequalities that date back to the genocide and forced slavery of African people who were forcibly brought to North America. Structural systems maintain this power hierarchy of white people, who do not face the same forms of discrimination and segregation as Black and Indigenous peoples. Moreover, age and relationship differences between Ms. Porter—a teacher and adult—and Louis—a student and a child—exacerbate this imbalance.

It is clear that Ms. Porter, a well-intentioned teacher whom others describe as caring, does not realize the power that she holds. This, too, is a product of structural power—namely, that she does not have to consider these dynamics on a day to day basis. And while she believes that her intentions were good, she does not realize the amount of harm that her actions inflicted (and continue to inflict) on some of her students.

REFLECTION:

Ms. Porter should use Appendix D in this framework and review the Anti-Racist Teaching Framework to reflect on her positionality and forms of agency as a teacher and white woman. The appendices, coupled with anti-racist trainings and continual deep reflection, will help Ms. Porter see how power that she holds manifests in daily and routine practices.
Educator Reflection:

1. What would you do after this observation walk if you were Ms. Porter?

   - What reflective steps would you take after any lesson or activity?

2. What would you do if/when you notice a colleague engaging in some of the behavior and talk that Ms. Porter was engaging in during this vignette?

3. How could you address and repair your relationship with Louis and other students of color?

4. What would you change in your daily practices to address and dismantle hierarchies of power that are embedded in your intersecting identities?

APPENDIX B

Example 1: Ms. Poppy and historicized erasure of Indigenous peoples

PLANNING FOR INSTRUCTION:

Ms. Poppy is a second grade teacher. Early in the school year she read the Histories of Places Framework and reflected on how her knowledge and experiences of a place may be very different from her students' and their families' knowledge and experiences in that same place. Ms. Poppy designed an activity in which students would share what they knew about the histories of the place where they went to school and the histories of the surrounding areas and neighborhoods. This was a whole group, indoor activity in which students were asked to think about what was “here” before their school was built. Ms. Poppy had created a timeline from pieces of paper that spread across the length of the whiteboard, with a picture of the elementary school at one point on a horizontal line that ran the length of the papers.

LAUNCHING INSTRUCTION:

Ms. Poppy launched the activity by saying: "Your job is to draw as many things as you can think of, of what and who was [at their elementary school] before we were here". The students in the class drew pictures on sticky notes at their individual desks and then returned to the front for a whole group discussion. When the students were seated, Ms. Poppy asked students to share what they drew, and said she would write down their ideas on a timeline that was on the whiteboard. Students shared ideas about when they thought the school was built, what the land that the school was built on may have looked like, and what plants and animals
were here. Then Simon, a white student, said that Native Americans were here, and Ms. Poppy followed up asking what he “knew about them”. Simon shared:

“Native Americans are really nice people who had this land but then we had a big place but we weren’t at this place. But we had developed guns and then we came over here and then we’re like, ‘We have guns. You have bow and arrows. Give us some of this land because it’s huge or we will attack you.’ And then since they were so nice, they’re like, ‘Yeah, come on in,’ and because they were scared of getting shot with the guns that we had developed. So this used to be the Native Americans’ land.”

When another student asked for clarification, Simon added:

“Like our great, great, great, great grandfathers had developed guns and then we took canoes and rode over here. Then we’re like, ‘We have guns. You only have bow and arrows. We will shoot you if you don’t come and give us some of this land.’ Since the Native Americans were nice, they gave the land to us. But then we were kind of not so nice to the Native Americans who were nice and we said ‘We will shoot you with our guns unless you give us more land.’ And they were scared and then they keep giving us more and more land and they had smaller and smaller land until this was all ours. Then they only had a small bit of land.”

Ms. Poppy added to this, saying, “hundreds of years ago, people sailed from Europe and thought they had discovered this land, but this land was already inhabited.” Ms. Poppy then shared the names of the tribes in their local region, the meaning of the tribal names, and added that “these were the tribes that were living here before Europeans were over and settling in this area”. In this move, Ms. Poppy is doing a number of things that shift Simon’s narrative in powered and historicized ways. First, Ms. Poppy narrowed Simon’s [trans-spatial and trans-temporal] orientation to a particular point in history, “hundreds of years ago”, when Europeans sailed to the eastern seaboard. This orientation is noteworthy because Creekside Elementary is in the Pacific Northwest, where the histories of European contact with Indigenous peoples have different points of origin—temporally, contact happened more recently, and spatially, this happened both on land and water. Second, Simon explicitly used language to orient the class to the violent history of contact between settlers and Indigenous people, and made visible the imbalances of power and disconnection between ethical and moral stances. Ms. Poppy, however, in a move that is common in classrooms, tempered this language by talking about European contact in terms of “settlement”.

A few minutes later, Ms. Poppy realized she had historicized Indigenous peoples by saying that they “were” here. She said to the class,

“Oh sorry, I apologize. I just said ‘Native Americans were.’ We have plenty of people in this area who are Native Americans whose ancestors have been here for a really long time. So I meant to say, “When,” or “Before Europeans came and started living here”

REFLECTING ON INSTRUCTION:

Ms. Poppy reflected on her instruction and thought more about what Simon was saying and how she responded. She realized that Simon was positioning the settlers as ‘we’, and recognized his and others’ ancestors as part of this history.
In this vignette...

In thinking about the histories of their school, Simon was making visible the deeply powered relationship between Indigenous peoples and European settlers. In his response, the complexity of his thinking spanned across temporal and spatial scales to connect past events and present positionings of both himself and others with a shared ancestry to the settlers.

**Power** - Simon is making explicit how the immoral ethical decisions made by non-Indigenous settlers were displays of power imbalances, exacerbated by differential access to / use of tools and weaponry. Not only was this powered relationship something that led to the forced removal Indigenous peoples from their lands, a historical account, but this powered relationship has continued through today and has implications for the building of their school and the presence of people with settler ancestry in that school.

**Historicity** - Simon is positioning the settlers as “we” and “our”, and talking about the settlers as their “shared ancestors”. Recognizing and making explicit this shared ancestry ties his (and others in the school) position in the school directly to this lineage. Not only is Simon thinking across temporal scales, but spatial scales as well. The prompt in class was to think about who was at Creekside Elementary before they were here, and Simon expands the spatial view beyond the school grounds, and more generally to contact between Indigenous peoples and the non-Indigenous settlers. Even though she corrected herself, Ms. Poppy’s initial historization of Indigenous peoples denied their presence and futurity.

Example 2: This excerpt is from an interview with a kindergarten student. The student was asked to look at a photograph with no accompanying explanation. The picture depicted a person standing in waist-high water surrounded by fallen trees that appeared to be chewed by a beaver. In this prompt, the interviewer asked the student who they thought lived there.

<table>
<thead>
<tr>
<th>Interviewer:</th>
<th>So who might live in this place?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allie:</td>
<td>A person that can’t afford a house that can only afford the pieces.</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>The pieces, what do you mean by that?</td>
</tr>
<tr>
<td>Allie:</td>
<td>For building a house.</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Where do you see the pieces for building a house?</td>
</tr>
<tr>
<td>Allie:</td>
<td>Nowhere.</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Nowhere? Okay. So wha-</td>
</tr>
<tr>
<td>Allie:</td>
<td>Or he’s camping.</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Maybe he’s camping? So what makes you think that?</td>
</tr>
<tr>
<td>Allie:</td>
<td>Because he’s there.</td>
</tr>
</tbody>
</table>

In this excerpt, Allie interprets the presence of the person standing in water as "a person that can’t afford a house”. Allie brings in what they know about economic inequity and people experiencing homelessness into their description of who might live in this place. What is also interesting is that Allie interprets the “who” as humans, instead of the more-than-humans who might also live there, which might be an indication of a human-dominant nature-culture relation that Allie holds.
## APPENDIX C

### Scaffolds for Reflecting on Your Own Enactments of Power and Historicity in Science Learning and Teaching

Because power and historicity are ubiquitous, your daily practices are opportunities to exercise agency and work toward transformation. Here are some important practices and orienting sensibilities that can support refusing problematic forms of power and historicity in learning environments:

<table>
<thead>
<tr>
<th>Daily practices</th>
<th>Example questions or strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Incorporate multiple, intersecting histories of places through walks, community research, and investigations (this includes making visible the lineage of systemic injustices, and resistances to these injustices).</td>
<td>• See Ms. Poppy’s timeline example above&lt;br&gt;• Research local natural history sites, especially those that incorporate Indigenous presence, about the histories of the places that surround your learning environment. &lt;br&gt;• When on walks, you can ask questions such as, “who do you think decided to build these apartments here and why? What do you think was here before these buildings were here? How do you think this place will change in the future?”</td>
</tr>
<tr>
<td>2. Learn to recognize the ways in which you have benefited from power structures, the way powered relations show up in your interactions with learners, families, and communities including behavior management and disciplinary practices (which disproportionately affect Black, Brown, and Indigenous learners). This also includes being aware of how white-centric discourses are made normative and, at the same time, invisible within curriculum materials, your pedagogical strategies, and micro- and macro-interactions in learning environments.</td>
<td>• Regularly examine how and who you discipline in your learning environment. For example, do you often find yourself assuming that the boys of color are off-task or disruptive? Do you “pay closer attention” to their behavior than the white learners?&lt;br&gt;• Be a critical consumer of curriculum materials. Ask yourself: how do these curriculum materials make Indigenous peoples visible and present (not just in the past)? Do these curriculum materials support multiple ways of knowing, or do they steer students to one “correct” answer? Do these curriculum materials describe outside places in terms of humans’ use of those places, or do they take the perspective of more-than-human inhabitants of places?</td>
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<td>3. Restructure your model of family and community engagement towards cultural thrivance (see Family and Community Engagement Framework). Value, encourage, and include multiple knowledges and practices in the learning environment and in socio-ecological deliberations and decisions.</td>
<td>• Regularly elicit and value family knowledges and practices in your teaching practice. Use family tools to enrich your lessons.&lt;br&gt;• Use family knowledges and practices to guide your teaching.&lt;br&gt;• Make space in discussions for family knowledges and practices to have equal value to the knowledges that you build in your learning environment.&lt;br&gt;• Ask family members to share their expertise with learners. Incorporate family members as valued members of the learning community.</td>
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<tr>
<td>4. Engage in ethical deliberation and decision-making that actively disrupts historicized power imbalances among institutions and learners and their families. Adopt a justice-oriented stance that refuses white-centric, normative, socio-ecological relations that rely on human dominance, resource extraction and the marginalization of communities of color.</td>
<td>• When thinking about field-based data collection, consider family members as important community members with which learners can collect data, interview, and understand multiple perspectives to inform ethical deliberation and decision-making.&lt;br&gt;• This requires constant reflection on your own teaching practices, your attitudes and relationships toward families and communities, language and design of curriculum materials, and examination of school or other organizational policies.&lt;br&gt;• Reflect on your own multiple, intersecting identities and how those shape your practice and the ways that you see places, learners, and their families (see Appendix D below).</td>
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APPENDIX D

Educator Self-Assessment to Reflect on Power and Historicity

Below is a self-assessment for designing learning environments, including instruction and assessments, to address and navigate dimensions of power and historicity. Educators can assess how power, settler-colonialism, racism, and systemic and institutional imbalances show up in interactions and institutional structures. Take this self-assessment and return to it quarterly or yearly to assess which elements you have started to incorporate into your educational practices, which elements you have deepened over time, and which elements you have yet to engage.

Before taking the self-assessment, take a moment to reflect on your own identities, privileges, and power. Write down and reflect on the following dimensions:

Race:

Ethnicity:

Sex:

Gender:

Age:

Social Class:

Physical, developmental, and psychological ability:

Sexual orientation:

Other:

Self-assessment continued next page...
<table>
<thead>
<tr>
<th>Dimension of Power</th>
<th>Dimension of Practice</th>
<th>I do this well</th>
<th>I do this but want to get better</th>
<th>I have not yet tried this</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systemic Power</strong></td>
<td>I reflect on the power and privilege I hold as an educator in my relationships with learners and their families.</td>
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<td></td>
<td>I see learners through a <em>sensemaking</em> lens, rather than a <em>behavioral</em> lens in both the indoor classroom and in field based activities.</td>
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<td></td>
<td>I continually reflect on my implicit and explicit bias when it comes to valuing learners’ perspectives, knowledges, values, and forms of sensemaking.</td>
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<td></td>
<td>I consider the ways that I may experience privilege - such as access to resources - differently than learners and their families.</td>
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<td></td>
<td>I distribute resources <em>equitably</em> (not necessarily equally) to learners based on their needs and relative access to power and privilege.</td>
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<td><strong>Individual / Collective Agency</strong></td>
<td>I recognize the complexities of my own identities and experiences.</td>
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<tr>
<td></td>
<td>I recognize and value the complexities of learners’ and their families’ identities and experiences.</td>
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<td></td>
<td>I recognize and value the intersectional identities of learners, and consider how these may shift in different settings.</td>
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<td></td>
<td>I acknowledge that I hold authority, power, and privilege in my role as an educator, and that this power is interwoven with systemic power from my educational institution.</td>
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<td></td>
<td>I recognize the role of my own power and position in decision-making and interactions with learners and their families.</td>
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<tr>
<td><strong>Race, Racialization, and Racism</strong></td>
<td>I recognize and consider how learners of color are faced with issues of race and racialization differently than white learners, and <em>actively seek to interrupt these dynamics</em>.</td>
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<td></td>
<td>I reflect on the ways I / my institution perpetuates or combats racialized and racist systems of power.</td>
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<td></td>
<td>I engage in daily practices that actively seek to dismantle racism in my learning environment and at my institution.</td>
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<td><strong>Colonialism and Settler-Colonialism</strong></td>
<td>I study the multiple and intersecting <em>histories of places</em> where I live and work.</td>
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<td></td>
<td>I engage learners in Histories of Places learning activities throughout the duration of my learning program.</td>
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<td><strong>Key Dimensions of Power and Historicity</strong></td>
<td>I reflect on key dimensions and relations of power and historicity at <em>multiple levels</em> (for example: child-to-child, school-to-family, etc.)</td>
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<tr>
<td><strong>Multiple Scales</strong></td>
<td>I reflect on how power and historicity operate (often simultaneously) at multiple scales (for example: micro, meso, and macro-scales)</td>
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Self-assessment continued next page...
Reflection Questions:

1. Now that you’ve taken the self-assessment, take a minute to reflect on what you do well and set some new improvement goals for yourself.

2. What supports might be helpful to you as you continue to deepen your practice?

3. What practices do you already do well and how do you know?

4. What are 3 practices you could try to include in your instruction this year?

Suggested Citation