International Society of the Learning Sciences

Revisiting Wise & Schwarz's Provocations for CSCL: Partnerships for Transformation and Educational Change

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Abstract: In 2017, Wise and Schwarz proposed eight provocations for the field of CSCL following their interactions and analyses with scholars within the field. We broaden the call to the entire LS community to once again pause, reflect, and discuss a vision for the next 10 years of opportunities, challenges, and impacts we seek to make. This collective ambition is not simply to be responsive to technological changes but also to inform their design and use. Towards this end, we invited researchers from the ICLS and CSCL communities to propose new provocations for us to consider and discuss that focus both on the changing technological landscape and the need to ensure that diverse perspectives and viewpoints are brought into the forefront of technology-enhanced collaboration in meaningful ways.

Introduction

As our world grows ever more reliant on digital technologies to communicate, share knowledge, and think together, and as AI rapidly reshapes how we work and learn, the ICLS and CSCL communities are poised to make critical contributions in ensuring these tools foster the health and wellbeing of people at multiple levels of scale. We can draw on decades of collective research to inform design and technological integration to prioritize supporting individual learning and cognition, helping groups develop the capacity to engage in higher-order collective thinking and innovation, and strengthening communication processes and social infrastructures that stitch together the fabric of societal cohesion. Towards this aim, we revisit Wise and Schwarz's (2017) paper on "Visions of CSCL: Eight provocations for the future of the field." In this paper, the authors challenged the CSCL community to reflect on its beginnings and identify what they believed to be the greatest challenges the field would face in the coming years. As we approach the 10th anniversary of the provocations article and face a changing educational landscape, we broaden the call to the entire LS community to once again pause, reflect, and discuss a vision for the next 10 years of opportunities, challenges, and impacts we seek to make. The collective ambition is to not simply be responsive to technological change, but also capable of informing and shaping these developments through [our] rich theoretical landscape." (Kaliisa et al., 2025, p. 16).

The need to focus on technology-enhanced collaboration

Globally, we are seeing how social media technologies are amplifying inequality, polarization, politics of hate, and a splintering of society. People often use technologies like ChatGPT to learn about new things, which is both exciting but also potentially problematic. Learners are finding ways to use generative AI to spark creativity, opening possibilities for CSCL to help shape the design of playful, creative, and culturally relevant learning experiences that foster higher-order thinking and collaborative habits of mind (Kafai & Morales-Navarro, 2023). This, however, does not address the ongoing risk that generative AI may reinforce existing inequities and deepen the digital divide if left to be adopted in the wild.

There is concern that the rise of generative AI tools will amplify existing inequities given findings that generative AI use is higher among children in higher socio-economic classes and with children who attend private schools than public schools (Hashem et al., 2025). Recent research also points to the dangers of weaker engagement in and self-regulation of learning activities (Fan et al., 2024) and reduced cognitive activity, recall, and ownership of tasks (Kosmyna et al., 2025) when using generative AI in unscaffolded ways. Thus those learners with access to more experienced teachers, who are in schools that follow informed technology integration, with access to paid subscriptions that provide higher-quality tools, and opportunities to use

technology for knowledge creation work, these are the learners that will reap the benefits of technology. In many ways, using technology to mitigate inequity is at the heart of foundational work in CSCL, but the focus was on using technology to give learners agency, not to address systemic inequities.

The need to build bridges across ICLS and CSCL

The dearth of research in CSCL that focuses on systemic inequity or the needs of diverse populations is problematic if we are to help inform the design and use of technology-enhanced collaboration for globally diverse populations (Gomez et al., 2021). Without full awareness of the ways that technology design and use can negatively impact differing populations, we run the risk of amplifying existing patterns of interaction that may harm many of our learners. More researchers within the broader Learning Sciences community focus on different forms of equity, culturally meaningful STEM, and learner-centered research (Fong et al., 2023; Rajala et al., 2022; Sheridan et al., 2022). However, much of this research is US-centric and less focused on technological implications (Sawyer, 2022). CSCL researchers tend to be more focused on the technological implications of research and more globally distributed (Baker & Reimann, 2025; Kurtz et al., 2025). Thus, by bridging these communities, we can identify new grand challenges and discuss whether and how educational transformation should be a goal of the International Society of the Learning Sciences.

Towards this end, we invited researchers from the ICLS and CSCL communities to propose new provocations for us to consider and discuss that focus both on the changing technological landscape and the need to ensure that diverse perspectives and viewpoints are brought into the forefront of technology-enhanced collaboration in meaningful ways.

Provocation 1: As a cultural practice that sustains the conditions for democracy, collaborative learning embodies a societal responsibility that must be prioritized

Sebastian Simon, Mia Čarapina, and Ban M. Shiwalia

Divisive tendencies are on the rise worldwide. Global collaborations and democratic institutions are under strain, and technological infrastructures increasingly amplify fragmentation (International IDEA, 2025). History shows that democracies have weakened before, yet recovery has almost always come from below, through collective civic movements that depend on citizens' ability to deliberate, coordinate, and act together (Riedl et al., 2025). While such collaborations always have been challenging, today, such capacities are further challenged by technological progress: mass surveillance and social credit systems foster self-censorship and suppress social movements in their roots (Qiang, 2019). Simultaneously, algorithmic personalization in social media (Zuboff, 2019) and the rise of AI systems marketed as companions promise frictionless interaction while quietly eroding the messy but vital experience of human collaboration. Symptoms such as the loneliness epidemic (King, 2018), erosion of core collaborative values such as respect and trust in education, and within other social settings, foreshadow their larger impacts on societies(Levitsky & Ziblatt, 2024).

If democratic resilience depends on the collective capacity of societies to rebuild social trust, negotiate shared meaning, and listen to each other through empathy and dialogue, then building these capacities in future citizens becomes an educational imperative. We argue that collaborative learning is not merely a pedagogical method, but a cultural practice that sustains the very conditions for democracy in an age of technological individualisation and division. Everyone learns through and to navigate within complex social systems, and computer support has become ubiquitous in that regard. As such, CSCL and related fields share a responsibility towards current and future citizens to help them collaborate and understand collaboration better.

The question is how this is to happen when CSCL generally focuses on small-scale, isolated interventions with artificial activities designed by researchers (Wise & Schwarz, 2017). For even a systematic, shared, theory-driven understanding of collaborative learning requires, at the outset, small controlled studies in which variables can be isolated and collaborative learning processes examined rigorously. In this process, findings must be iteratively discussed with practitioners to situate theoretical mechanisms within the realities of classroom practice, rather than relying on idealized models. Through such investigations, researchers can identify the mechanisms that genuinely support learning in CSCL and differentiate between activities that facilitate collaboration to then support practitioners. Previously labeled ineffective interventions should, in this regard, not be seen as failures but as analytical insights that inform the development of supportive techniques, e.g., scripting (Vogel et al., 2017). It is crucial to understand that these techniques are not to dictate students' thinking processes, but to structure interactions so that meaningful collaboration can emerge, while simultaneously promoting co-knowledge acquisition and collaborative competencies.

Once we agree on foundational principles (which we clearly still lack), research can start being translated into practice through meaningful partnerships with K-12 schools, universities, community-based organizations, and corporate partners, through collaborative efforts and methods, such as design-based research (DBR). In this way, the small-scale studies provide the basis for sustainable and scalable CSCL interventions that are both theoretically grounded and practically relevant. Feedback from practitioners can then inform further research on these collaborative practices, bound to change in the contexts they are practiced in. The artificiality of experimental, collaborative activities is another interesting point, since CSCL can have another, direct impact through the design of its activities. These activities implement state of the art CSCL theory and practice, such as positive interdependence or knowledge of the intricate social processes, and as such present an interesting opportunity for practitioners to explore such settings as a learning opportunity for themselves. One could argue that this mutual exchange is, in itself, collaborative learning, if conducted with practitioners as actors and not mere providers of study settings. Likewise, practitioners hold valuable practical knowledge that can inform meaningful CSCL interventions. But not only do we need a mutual collaborative learning opportunity between practitioners and researchers (in punctual, isolated studies). If isolated studies are an issue, one might ask why don't we apply what we know about collaborative learning to innovate how we learn as a community and practitioners to conduct large multilab experiments? DBR can guide multilab experimental design efforts through gradual refinement of initial experiments before sharedly executed on a large scale. We argue that, if we truly are to embody collaborative principles in our research, multi-lab interdisciplinary collaborations should be the norm, interventions both close to practice and transmitting collaborative skills should be the norm, and sharing collaborative knowledge and values with participants should be the norm. We challenge CSCL researchers to set and document an example of such a collective effort, create and refine procedures, activities & material to conduct experiments that simultaneously constitute learning experiences for practitioners across countries and laboratories, coordinate and engage as an asynchronous provider of knowledge and CSCL practice. Interestingly, going down this difficult road of collaborative research will open another, potentially just as interesting: the possibility to study collaboration between CSCL researchers who have awareness on what successful collaboration requires and means. Furthermore, by building community, CSCL can serve as an example for other communities and rebuild the spirit of collaborative learning on the many levels it is challenged across the world today. Learning is no isolated endeavour that happens in schools. It happens through interactions everywhere and all the time, and it is intrinsically collaborative. If we want society to prevail, CSCL must itself set the example and collaborate across every spectrum of it.

Provocation 2: We need to develop solidarity with communities to redefine what we mean by educational change

Natalie Rae

It is necessary to redefine what educational change might mean in the context of the intensifying socioecological crisis and the rise of generative AI (GAI) tools. Thinking alongside elaborations of educational change, such as Law and colleagues' (2021) dimensions of scalability, I advance a notion of educational change that takes up Philip and Sengupta's (2020) urgent call to see theories of learning within historical and contemporary processes of imperialism. This reorientation underscores the importance of a shift from tool-centric collaboration learning to collective, justice-oriented approaches that foreground collaboration as solidarity with social movements for justice and self-determination. In light of the ecological assessments of GAI's impacts and ISLS 2026 conference theme, *'Partnering with Purpose,'* I engage with literature in and beyond LS and CSLC to call for the sociopolitical process of developing solidarity with communities – as co-thinkers and partners in the struggle for collective socioecological thriving.

GAI's positioning as an emerging technology for learning

Since Wise and Schwarz's (2017) publication, there has been a tremendous increase in research on GAI in education (Ng & Ho, 2025). The hype and hyperbole around GAI's capabilities and utility for learning have been met with both enthusiasm for possible futures and caution (Borge et al., 2024): with scholarship examining evidence of ongoing social (e.g., Selwyn, 2022) and ecological (Markelius et al., 2024) harm. Increased financial speculation and investment in the development of physical infrastructure to enable GAI — expanding demands on fossil fuel energy use through data center development (Edwards et al., 2025) — traces the colonialism's patterns of expropriation and exploitation (Birhane, 2020). As communities within the U.S. (see Memphis, Tennessee, in Kolodny, 2025) and the majority world (see Chilean water activists and Uruguayan citizens in Hao, 2025) contest the development of data centers in their locales, social movements for self-determination are of immediate concern

for the communities by which technology and capital interests have impinged (Faniyi, 2024). Self-determination here refers not only to a group's claims to autonomy and having consequential governance, but also to a collective, relational praxis rooted in the cosmologies of indigenous and Afro-descended peoples (e.g., Walsh, 2015). In the next section, I unpack an example of one of such movements, in Boxtown South Memphis, a case that makes clear the stakes of committing to and reimagining educational change for learning designers and scientists who consider learning within emerging technologies. Where scholars in the learning sciences and CSCL communities have articulated how theories and designs for learning are accountable to their contemporaneous political contexts (e.g., Philip & Sengupta, 2020, Learning Towards Justice, 2025), notions of educational change must reflect this context.

A case study in self-determination in the age of AI-data centers: Boxtown, South Memphis

This provocation began by wanting to think about how the conversation about AI use makes any conceptual contact with community efforts for self-determination, rooted in the intellectual genealogies of politicized thought and action, and grew out of my inquiry into a historically Black town in South Memphis, Tennessee, Boxtown. In 2024, the former Electrolux factory in Memphis was transformed into a data center for Elon Musk's company xAI's product, Grok. Since the factory was taken over, community members have expressed concerns about the use of natural gas generators – more than were permitted – as exacerbating air-quality problems (Harris et al., 2025).

The Boxtown community in South Memphis represents a robust case of resistance and ecological justice in the face of industrial encroachment and environmental racism. The Boxtown community was formed by formerly enslaved Black people who built homes from abandoned boxcars, creating an independent community (Moore, 2021). Enduring decades of industrial pollution, including exposure to refinery emissions, coal ash, and steam plant operations, studies indicate significantly elevated cancer rates and other health disparities among residents. The Boxtown community, people, and ecology have been treated as expendable —an ostensible sacrifice zone (Juskus, 2023) — in the face of industrialism and expanding profit. Boxtown residents have been collectively pushing back against injustice, most recently their successful opposition to the Byhalia Connection Pipeline (First-Arai, 2022). My historical coverage is meant to underscore how these industrial intrusions are not incidental but part of the economic, political, and ideological work that renders lives as expendable to the will of industrial progress. And yet, these communities continue to resist, such as in the Memphis 1968 Sanitation Strike, considered a precursor to the contemporary environmental justice movement (League of Conservation Voters, 2022). The tools, strategies, and intellectual legacy of activism for self-determination is a collective, relational praxis rooted in the cosmologies of indigenous and Afro-descended peoples (e.g., Walsh, 2015). In each of these movements, the strategies of organizing people, co-developed priorities and tactics, the ways of partnering and coming together are forms of learning and action as much as the products of their efforts - an articulation for reparative justice—calling for ecological redevelopment, solar energy investment, and the restoration of Black and Indigenous relationships to land and place for themselves and communities like them. Secondly, it would be disingenuous to frame Boxtown's activism and calls for self-determination only as relevant within the contemporaneous concerns specific to xAI's Colossus 1 Data center operations, but rather part of a longstanding struggle of racially impacted industrialization.

How can we think about domain learning or collaboration when the learners themselves cannot breathe? My question is not a compositional flourish: I ask this with impatient sincerity, as I am but one of the growing number of Black parents who have children with respiratory conditions that can keep them out of school and threaten their wellness. What is the point of Computer Supported Collaborative Learning when the computational infrastructure is at the expense of Black peoples' lives and our ecologies' ability to thrive? For my thinking, Táíwò's (2022) concept of constructive politics: the creation of new social structures and relationships that redistribute power and resources. For Boxtown's demands go beyond inclusion in existing governance with regard to one technology—they seek radical transformation of political and economic systems. For CSCL, this case underscores the need to recognize community organizing as a form of learning, in which scientific inquiry, environmental monitoring, and advocacy are collaborative, pedagogical sites of transformative agency (Bang & Vossoughi, 2016). Incorporating such cases into CSCL discourse challenges the field to expand its unit of analysis from individual learners to communities and ecologies. It also calls for a redefinition of educational change—one that centers solidarity, reparations, and ecological justice as urgent and transformative learning outcomes.

Design implications for CSCL: Constructive politics and solidarity-centered learning

Addressing this context requires LS and CSCL scholars to treat the hyper-local scale of solidarity-centered learning as the scale for educational change. Drawing on Law et al.'s (2021) five dimensions of scalability—depth,

sustainability, spread, ownership, and evolution—I call on CSCL to reimagine its design principles to support justice-oriented learning, specifically in the context of social movements for self-determination in the global proliferation contexts of data centers. This involves moving beyond tool-centric models to embrace community-centered learning architectures, thereby emphasizing the crucial role of community involvement in educational design.

Constructive politics offers a framework for these transformations. It invites CSCL researchers and designers to build 'the rooms'—physical and conceptual spaces—where communities can imagine and enact just futures. This includes developing infrastructures that support learning as resistance, such as platforms for environmental monitoring, storytelling, and policy advocacy. Moreover, CSCL must adopt design principles that center on solidarity. This means engaging with peripheral contexts (Matuk et al., 2021), where affected communities are treated as co-designers for collective action in which we are personally accountable to. Ultimately, CSCL's role in educational change lies not in scaling tools, but in scaling justice. By aligning with social movements and ecological struggles, the field can contribute to learning environments that are not only collaborative but also liberatory.

Provocation 3: We need to bridge epistemological differences between LS and CSCL to cultivate more productive collaborations

Martin Greisel

Any call to collaborate between the Learning Sciences (LS) and Computer-Supported Collaborative Learning (CSCL) will be ineffective if it remains unclear how to bridge epistemological differences, which are rooted in different ontological stances and axiological values and norms (AOE). This claim rests on three assumptions: (a) Researchers differ in their ontologies and axiologies which, in turn, constrain their epistemic aims, the ideals or standards they value, and the processes they consider as producing reliable knowledge (see AIR framework; Barzilai & Chinn, 2024); (b) genuine collaboration requires some understanding of these ontological, epistemological, and axiological commitments; and (c) while LS is often associated with interpretative, design-based, or social justice-oriented traditions, CSCL spans a broader mix of approaches with a noticeable tendency toward analytical or computational methods.

The challenge, then, is not simply to connect two communities but to navigate differences that cut across both. Scholars from different communities may understand each other easily if they share similar commitments, whereas scholars within the same community might struggle if one seeks ideographic insights through interpretative reasoning grounded in situated meaning-making and the other seeks nomothetic explanation through an analytical, variable-based approach. The key issue is therefore less LS versus CSCL than dialogue across interpretative, analytical, design-based, and social justice-oriented epistemologies and their accompanying ontologies and axiologies.

Learning scientists already collaborate, but collaboration does not guarantee mutual understanding. They work within a shared organizational infrastructure of societies, conferences, committees, and journals (i.e., an architecture of collaboration; Shrum et al., 2007). Within it, researchers with different AOE stances work together through shared interfaces such as co-authored papers, creating trading zones in Galison's (1997) sense. Such collaborations often begin around common terms like *learning* or *collaboration*, yet these terms are frequently polysemous (Ceccarelli, 2001) and can conceal important differences in meaning.

Moving beyond the pidgin of the trading zone therefore requires a more explicit *shared vocabulary*. Understanding across ontological, epistemological, and axiological differences requires more than goodwill; it requires tools that support meta-level reflection on how we produce knowledge. A shared vocabulary would be a first step. This does not imply a single agreed definition of "learning," "collaboration," or "theory," but language that makes divergent definitions explicit and mutually intelligible. Without such linguistic infrastructure, researchers may talk past each other, mistaking epistemic differences for disagreements in substance, or ignore work they cannot relate to their own.

As a first step, to provide such a linguistic infrastructure and to make these differences visible, the community could develop a *taxonomy*. Such a taxonomy would classify researchers' ontologies (e.g., what is the nature of "learning"), the epistemic aims (e.g., understand meaning-making, build descriptive or predictive models, develop design principles, transform power relations), the standards of evidence (e.g., thick description & theoretical resonance, statistical robustness & generalizability, practical consequentiality & iterative justification, justice in the research process & liberatory assessment), and the knowledge-generating processes (e.g., grounded interpretation & co-interpretation with participants, experimental manipulation & reliable measurement, iterative design & pragmatic evaluation, reflexive documentation & community feedback; Barzilai & Chinn, 2024). In this

sense, I extend Rummel's (2018) proposal for a taxonomy of ways to support collaboration with technology. Such an (extended) taxonomy would not prescribe what "counts" as valuable and credible research; rather, it would act as a reflective scaffold, helping researchers situate their work transparently and recognize others' positions without reducing them to labels like "LS" or "CSCL."

One could imagine a lightweight tagging system for publications or conference papers, through which authors indicate their ontological, epistemological and axiological profile, their methods, and the phenomenon they study using shared categories from the taxonomy. For example, contributions could self-identify as interpretative with the aim of a deep understanding of meaning-making mechanisms in a specific context, or analytical with the aim of generalizable knowledge, design-based with the aim of developing artefacts that are useful in educational practice, or social justice-oriented with the aim of transforming existing power relations. Making these commitments explicit could help readers interpret arguments more generously and accurately and see more easily how different approaches complement one another in addressing complex learning phenomena.

By shifting the conversation from community boundaries to ontological, epistemological, and axiological transparency, we might cultivate more productive collaborations. Rather than asking how LS and CSCL can work together, we might ask how scholars with different commitments can build reciprocal understanding without forcing assimilation into a single dominant discourse. A community-wide taxonomy and shared vocabulary would be a pragmatic step toward that goal, encouraging intentional pluralism while reducing inadvertent fragmentation.

Provocation 4: None of this matters if we don't stop authoritarianism

Tanner Vea

There was a time when I used to go on the internet to catch up with friends, post pictures of my mundane life, and yes—learn collaboratively. Compared to a couple of years ago, when I stood in front of my colleagues in the learning sciences to warn them of fascism (Vea, 2023), we in the United States have lost further ground. It is becoming increasingly common in the US to see videos of masked secret police making children stand naked in the cold street at night and whisking people away in unmarked vans (Hernandez, 2025). There are revelations about a group chat of young conservatives, the future of our ruling party, joking about gas chambers (Beeferman & Ngo, 2025). Rising authoritarianism is not unique to the United States (Gorokhovskaia & Grothe, 2025). The protection of tenure and the idea of academic freedom used to be pillars of the academy as well, but these too are weakening as the US government makes demands for how educational institutions are run, who is hired, and what is taught (Helsel, 2025). Fascism seeks to control education to limit dissent over the installation of extreme social hierarchy (Stanley, 2018). This reality is reinforced on the internet as we see post after post about professors put on leave or fired for speaking against hate and authoritarianism *in the wrong ways*. Every once in a while, I wonder about whether I have done so *in the right ways* and might therefore be safe. Then I remember that this, too, is part of the long slide into authoritarianism. The fear of unthinkable things, now made thinkable, shapes every other thought.

Arcing through the rising tide of authoritarianism is the erosion of truth (Barzilai & Chinn, 2020). We cannot understand our current epistemic challenges without understanding power (Finchelstein, 2022). Traditional gatekeeping structures have weakened, and now "populist expertise" (Marwick & Partin, 2024) in digital social (and learning) spaces fills the void with conspiracy theories. Leaders, experts, and lay people mingle online in ways that once seemed to hold promise for a new democratization (Barlow, 1996) but now has become a vector of disinformation (Starbird et al., 2023). If social media is an important site of learning (provocation 7; Wise and Schwarz, 2017), is this not the most prominent use case of computer-supported collaborative learning in our current age?

As these events play out and impact us on a global scale, we must ask if the learning sciences can inform these debates or use the scholarly enterprise to help shape alternative possibilities. There are positive cases where design and analysis illuminate, in my view, the kinds of knowledge we now need (e.g., Jurow et al., 2016; Russo & Blikstein, 2023). But I also think of the senior scholar who told me that activism is not science or another who disrupted a student's presentation for calling out the implication of technology in mass murder. Those voices seem to say: How dare we have anything to say about the world we live in? There will be consequences for being a learning scientist who steps out of line. In the meanwhile, more laws are broken. More bodies pile up. More pain, and less humanity, on my screen.

I do believe that the CSCL community and the broader learning sciences community must work together now for a field that is worthy of our moment. We cannot do so by policing each other into asking smaller and smaller questions about learning, as if retreating from the conditions of our lives will protect the sanctity of the scientific endeavor. I became a learning scientist to build on the work of others who illuminated that learning is always political (e.g., Esmonde & Booker, 2017; Gutiérrez & Rogoff, 2003; Nasir & Hand, 2006; Philip et al., 2017; The Politics of Learning Writing Collective, 2017). The "what" and "how" of learning cannot be

meaningfully separated from questions about what is good and right and who has access to it (Philip et al., 2018). Power needs to be brought into our understanding of every community of practice (Curnow, 2022).

For some time, these considerations have marked a kind of epistemic divide in our fields—between those who seek to understand how power shapes our learning and those who hope for a vision of science that seems cleaner or less polluted by our commitments to the world and each other (Learning Towards Justice Team, 2025). If ever there was a moment to heal that divide it is now. If, as Cole (1994) offered, context is "that which weaves together" (p. 93), then the context of rising authoritarianism is weaving together everything we are doing in the learning sciences. It is literally shaping who is in the room, versus who is online, versus those who are absent altogether. It is shaping the questions we are allowing each other to ask and answer. It is the fear of the previously unthinkable that now enters my every thought. If we do not use this moment to stand up for one another, we may lose the ability to conduct rigorous learning research that seeks equitable learning possibilities for *every* child. Let us use this historical moment to stretch beyond our narrow questions to improve the knowledge-building conditions we live and work within, by directing rigorous inquiry toward answering how we got into this mess, and how we will get out. Our fields' design orientation provides unique tools for thinking pragmatically, not only theoretically, about how our current arrangements of power and knowledge can be shifted. We should build, investigate, and protect spaces of possibility for refusing extreme social hierarchy, exclusion, and censorship. We should also use our professional associations and scholarly ways of working to speak back to authoritarianism with whatever remaining public credibility we have. Harder still, we need to ask ourselves how expectations to seek government funding from authoritarian regimes may implicate us in the very kinds of social engineering we hope to resist. Only in solidarity will we succeed.

Engaging the community

Each of our four provocations presents pathways for our LS and CSCL fields to pause, reflect, deconstruct, and reconstruct pathways forward. Provocation 1 invites us to embody and prioritize the societal responsibility that sustains our conditions for democracy; if democracy, then, is hinged on its cultural practice as collaborative learning, multi- and interdisciplinary onto-epistemologies are inherent to this collective effort of LS and CSCL, Simon, Čarapina, and Shiwalia assert. Provocation 2 incites an epistemological shift in how we construe educational change as a mechanism of facilitating solidarity, accounting for the sociopolitical contentions of GAI. In the argument for constructive politics, Rae makes the call for a reimagining of design principles that may support justice-oriented learning. Provocation 3 beckons us to embrace epistemological differences between LS and CSCL as a precursor to more productive collaborations. Greisel contends for a more explicit shared vocabulary to ground this linguistic infrastructure. Provocation 4 invokes the exigence of stopping authoritarianism, a call for solidarity. Vea advocates for the explicit rejection of epistemological policing and monistic definitions of knowledge construction and inquiry to mend the divides between LS and CSCL. Interestingly, together these provocations make a case for a plan forward. The synthesis of these papers push our collective fields to begin the work of translating our research for the public in ways that prioritize designing for justice-oriented learning. In doing so, we can draw on our epistemological differences as a source of strength if we can develop a research community with epistemological humility that recognizes the limits of our own methods and values alternative methods as different lenses. Each methodological lens has its own depth, scale, and ability to see and uncover diverse phenomena. If we can find ways to bridge our epistemological differences, we can work to create pedagogies grounded in dialogue, where engaging difference becomes a necessary precursor not only to stronger collaboration, but to more critical, humanizing, and socially transformative learning. As our final provocation warns, solidarity is a necessary condition for resisting authoritarianism. As learning scientists, we must protect the ability of diverse scholars to think, investigate, speak, dissent, and engage in collective decision-making without coercion or control, while also recognizing that education is never politically neutral. In this sense, the provocation echoes Baldwin's (1998) warning that "people who shut their eyes to reality simply invite their own destruction." It makes clear that we are responsible not only for supporting those who name and challenge existing power structures, but also for doing that work ourselves.

These provocations are offered not as conclusions but as openings for conversation, critique, and co-creation within and across the CSCL and LS communities. We invite you to respond, challenge, extend, and reimagine them in light of your own work and perspectives, and to propose new provocations that surface emerging questions, contexts, and commitments not represented here. Our aim is to foster new lines of inquiry and sustain a shared dialogue on how LS and CSCL research can shape the technologies and practices of collaboration in the decade ahead, with attention to both our shared foundations and the diverse values, theories, and commitments that shape our collective practice.

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Hybrid facilitation plan

To facilitate accessibility and attendance for those who will not be able to attend the conference in person, especially accounting for the challenging political climate, we will offer a hybrid symposium. Towards that end, we will provide a variety of asynchronous, synchronous, online, and in-person opportunities for engagement before, during, and after the sessions.

Before the session

We will create a form of asynchronous engagement with the provocations through a website that includes a 30-second pitch of each provocation as a short video, along with its respective author(s) and written section. We will send out a call to the community to engage with us as part of this panel and help inform the field. We will also provide them with a way for the community to provide feedback on these provocations through a survey, as well as suggest additional provocations. The co-chairs will analyze the data from the survey to identify questions for our panel as well as relevant themes that can be shared during the panel. This modality will allow scholars across the community to engage and give their perspectives on these provocations, which may also serve as a form of (public) data collection and feedback for a longer journal article.

During the session

We will begin the live session with a 5-10-minute introduction from the co-chairs, introducing the provocations' background, aims, and format of the session, and each of the participants. We then envision having each author take five minutes to present their provocation as fodder for a discussion with our panel.

For each provocation, the authors will introduce their claim and differing perspectives, and Wise and Worseley will each respond in ways that analyze the trade-offs associated with differing positions. Thus, all four authors will not present one after the other, but rather each author's provocation will be followed by a panel discussion, and then we will move on to the next provocation. We envision each five-minute introduction to a provocation to be followed by a five to 10-minute discussion with the panel, with added time for the audience (in-person and online) to add their thoughts as well.

Our panel will consist of two primary discussants, Wise and Worseley, with Borge as a facilitator. The authors will also be seated near the panel to encourage a broader discussion across all the authors and discussants.

Hybrid management and navigation

We plan to use Zoom or the conference video technology to provide real-time access to the discussion. Sebastian Simon will serve as the hybrid ambassador, managing the Zoom logistics and rooms throughout the session with support from Breneil Malcolm. They will co-moderate the management of online logistics, including troubleshooting audio, video, screen-sharing capabilities, and providing support to presenters and discussants as needed.