



## Advancing Posthuman Methodological Approaches in the Study of Learning

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**Abstract:** The learning sciences has sought to generate new methods for the study of learning. With the advent of interest in new posthumanist approaches to learning (e.g., Pepler, Rowsell, & Keune, 2020), this workshop seeks to gather current methodological advancements in the study of posthumanist views of learning. The rise in posthumanist perspectives on learning are the result of two main research and scholarly trajectories: 1) an acknowledgement of our role as humans to care for the environment and to give agency to the environment and climate change; and 2) the powerfully and deeply agentic role of technologies and forms of communication in human lives. These two compelling forces have pushed researchers across fields of education to take seriously the role of more-than-humanist and posthumanist orientations to research methods to acquire more nuanced and expansive perspectives on theory and research. This workshop will explore methodological implications of de-centering the human experience in the study of learning.

### Organizers' backgrounds

The conference organizers have backgrounds of research in the learning sciences and have taken an array of post-humanist and humanist views on learning. Dr. Anna Keune is a postdoctoral researcher at the Ruhr-Universität Bochum and has co-facilitated and participated in a range of workshops in Africa, America, Asia, Australia, and Europe, including CSIR, European Schoolnet, FabLearn Australia, and the Moore Foundation. She participated in the doctoral consortium at ICLS 2018. Dr. Kylie Pepler is an associate professor of learning sciences at the University of California at Irvine and has conducted and participated in a range of NSF-funded workshops related to maker culture and materiality of STEM learning, has been a summer workshop faculty for the annual Design-Based Implementation Research Methods Workshop for three years, and co-chaired the doctoral consortium workshop at CSCL 2017.

### Intended audience and relationship to prior events

Learning sciences and CSCL researchers interested in post-human scholarship at any level of their career. We will seek to involve researchers interested in advancing post-humanist views learning, engaging in design-based research, and/or investigating application of posthumanism in the learning sciences. We intend to welcome international participation and for the event to be suitable for graduate students as well as university faculty.

Keune and Pepler previously facilitated a pre-conference workshop on the topic of “Posthumanist Perspectives on Learning” at the International conference on Computer Supported Collaborative Learning 2019. The workshop included 18 participants from seven countries in three continents, many of which had not previously attended an ISLS meeting. In addition, a 2020 special issue of the British Journal of Educational Technology resulted from the discussions held in this prior workshop. This proposed workshop is intended to be both a continuation and extension of this prior workshop. Similarly, our hope is that this will lead to another special issue in a leading journal outlet.

### Duration of event and other details

Half day to accommodate the online format and to encourage international participation. Maximum: 12; minimum: 5 participants. No special facilities or equipment required beyond conversational space and a projector.

### Description of the event

#### Theoretical background and relevance to field and conference

Recent advancements in the field of quantum physics, which identified that the instruments used to understand phenomena and define the ontology of matter, as well as assert that the materiality of past, present, and future is constantly reconfigured (Barad, 2003; Van Der Tuin & Dolphijn, 2012), call into question many of the assumptions undergirding many current methodological approaches in the learning sciences. These findings decenter the human in our analytical approaches and suggest blurrier notions between people and materials—how they respond to one another and mutually shape each other through intra-action (Barad, 2003). Furthermore,

notions of agency (i.e., the ability to act) are now being seen as not resting solely with humans but as coming about through intra-action among unspecified, changing, and entangled components contrary to actions between bounded objects (Barad, 2003; Grosz, 2010). These shifts have radical implications for our current methodological approaches, which emphasize human talk, gesture and movement centrally in the analysis and objects and artifacts as primarily mediators of human interactions.

Collectively, these threads and methodologies have been advanced within material culture studies (e.g., Ingold, 2012), cultural studies (e.g., Behar, 2016), and literacy studies, which have started to build on these perspectives to question the role of materials as drivers of processes through which people learn (e.g., Taguchi, 2014; Taylor & Iverson, 2013; Jackson, 2013; Kuby & Rowsell, 2017; Wargo, 2017). Particularly within the learning sciences, new materialist and post-human perspectives investigate the overlooked inequitable workings of materials for educational possibilities (e.g., Iverson & Renold, 2013; Thiel, 2015) new ways of conceiving the nature of STEM disciplines (de Freitas & Sinclair, 2013; 2014), as well as methodological innovations (Kuntz & Presnall, 2012; Mazzei, 2013a; 2013b; Koro-Ljungberg, 2016; Taylor & Hughes, 2016). Across this shared work, these scholars question the mediational roles of materials that subordinate materials to people, instead flatten hierarchies among people and materials.

The learning sciences have a long-standing history of advancing methodological approaches for capturing learning and posthumanist ideas call to rethink methodological approaches to take into consideration the role of materials beyond mediational means and sources of internalization important to the field of Learning Sciences (de Freitas, 2017). The shortage of research on methodological shifts that posthumanist perspectives imply is not a problem isolated to the learning sciences. Across the field of education, especially literacy studies, scholars have called for more systematic collections of posthumanist approaches to educational research (e.g., Taylor & Hughes, 2016). Those examples that have been captured are situated within education overwhelmingly present that these new posthumanist perspectives have implications for educational research practice. However, these approaches do not specialize in methods for advancing understanding of learning specifically.

### Theme, structure, goals

This workshop proposal seeks to advance posthumanist methodological approaches. As new methodologies are emerging this workshop aims 1) to bring together emergent posthumanist methodological advances, 2) to consider a set of approaches that are aligned with posthumanist perspectives, and 3) to think about what the utility of these new approaches may be for the study of learning. Such approaches may include new technological advances for capturing movement of sound, heat cameras, and other machine-readable data points that can be translated across senses. Discussions will take into consideration a variety of research contexts, such as schools and other out-of-school organizations, museums, libraries, community technology centers, makerspaces, workplace settings, and other contexts across everyday life.

### Workshop structure

<b>00:00 Welcome</b>	The organizers will welcome attendees, give a brief overview of the theme and goals of the session, and invite participants to briefly introduce themselves.
<b>00:20 Theory/Provocation</b>	Ahead of time, we will have participants take a survey which gives us formative feedback about their experiences and study of posthumanism. Using that survey, we will craft a presentation that calls upon “guest stars” (those with expertise) to illustrate our presentation, which will summarize posthumanism and outline affordances of posthumanism to ground research that addresses implicit existing hierarchies between human and object. We will offer a provocation to outline the call for a <i>Journal of Learning Sciences</i> special issue as the resulting deliverable.
<b>00:40 Small Group Work</b>	Participants will meet with 3-4 other attendees to share their thoughts and reactions to the provocation. In addition, they will generate three questions per group they hope to answer with respect to what a set of posthumanist research methods might look like. We will collect these questions on a jamboard.
<b>01:00 Identifying the scope of work</b>	Participants will share the questions they generated with their group before the break. As a group, we will identify which questions are methodological, which are theoretical, and which ones are both.

<b>01:15 State of the field: Posthuman Methods</b>	We will review findings/activities from the 2019 CSCL workshop and discuss the state of the field/methodological options/advances currently being taken up and their relationship to posthuman theoretical work. Then, as a group, we will situate our previously generated questions within the state of the field.
<b>01:45 BREAK</b>	<b>BREAK</b>
<b>02:00 Application</b>	We will explore a use case of data collection and analysis from a posthuman perspective. Participants will have the opportunity to share approaches to data collection from their own work that preserve the posthuman commitment to material agency, as well as the affordances and challenges associated with these approaches. Then, in small groups, we will co-analyze a piece of data using three different analytical methods consistent with posthuman theory. We will discuss how the application of posthumanism impacts the collection, analysis, and representation of findings/outcomes.
<b>02:45 Wrap up discussion: What's next?</b>	We will refine a special issue submission for JLS on the role of posthumanism in data collection and analytical methods. Topics may include arguments which demonstrate the affordances of specific methods (analysis and data collection) as well as pieces that point us to particular research settings, populations, and tools that might advance our methodological toolkit for the application of posthuman theory to learning sciences research. We hope to produce an outline of the SI call as a deliverable.

## Expected outcomes and contributions

The workshop will contribute to a fuller understanding of how post-humanist approaches to learning can contribute to the methodological understanding of learning in the Learning Sciences community. Specifically, the workshop is structured to address three key topics: 1) to bring together emergent posthumanist methodological advances, 2) to consider a set of approaches that are aligned with posthumanist perspectives, and 3) to think about what the utility of these new approaches may be for the study of learning. Together the conversations of the workshop are intended to extend conversations of the pre-conference workshop “Posthumanist Perspectives on Learning” that took place at CSCL 2019 and to further develop a special issue proposal for the Journal of the Learning Sciences related to posthumanist methods that had previously been rejected from the journal.

## Situating the workshop

### Participation requirements

This pre-conference workshop brings together leading and emergent scholars in the Learning Sciences and CSCL community working on advancing emergent materialist and post-human perspectives on learning. We will ask interested participants to apply in two capacities: 1) to present and 2) to participate. We expect that participants will reflect on existing post-humanist threads in the Learning Sciences and CSCL, which may include their own or other scholars’ work, and look toward the future to create concerted action steps that strengthen post-humanist methodological approaches in the field. Participants can include key leaders and emergent scholars in the field of the Learning Sciences, CSC and related disciplines, as well as scholars who are skeptical about these approaches.

### Relationship to similar events conducted in the past

This workshop builds on the pre-conference workshop on the topic of “Posthumanist Perspectives on Learning” at the International conference on Computer Supported Collaborative Learning 2019. The workshop focused on introducing posthuman perspectives to the learning sciences and to start to explore early implications for theorizing learning, designing for learning, and capturing learning in school and out-of-school contexts. The workshop participants included early career and established learning sciences and literacy scholars, and the workshop influenced the trajectory of their work. The workshop culminated in a special issue with the British Journal of Educational Technology (edited by organizers and colleagues) with close to 30 abstracts interested in submitting (and several from learning scientists). Where the special issue brings together empirical pieces related to posthumanist perspectives, it does not advance methodological approaches. Through conversations within the workshop and throughout the follow-up activities, it became clear that there is a pressing need to articulate, document, and collect methodological approaches for capturing learning that align with fundamental shifts that

the theoretical turn introduces that are not covered or collected elsewhere. This need resulted in the current proposal. This workshop is an extension of that prior work and will hopefully engage an even wider group in identifying connective solutions between theory and method.

### Participation solicitation

We will solicit participants for the workshop through personal social media channels (e.g., Twitter, Facebook) and the ISLS Facebook page. Additionally, we will reach out to the vast network of scholars and graduate students who are working on post-humanist approaches to learning within and beyond the Learning Sciences, including scholars in literacy studies, mathematics education, cognitive science, and material culture studies/anthropology/folklore.

### Draft call for Participation

We invite leading and emergent scholars in the Learning Sciences and CSCL community who are interested in and are working on advancing post-humanist methods on learning and their implications for the field. In this workshop, participants will collectively explore emergent posthuman methods and the utility of these approaches to the study of learning. Participants are invited to join to present or to comment. We aim to bring together a diverse group of scholars whose interests and experiences range across a range of post-humanist contexts, including those skeptical to these perspectives.

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