

Playful frameworks of research: Play and its potential in researching learning alongside youth

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Abstract: Recent efforts to envision expansive frameworks of participatory research alongside communities, including youth, have produced particularly rich work in the learning sciences. In this paper, I frame the concept of play as a boundary practice while working alongside youth and unpack its potential role in the research process. I make a call for scholars to begin thinking deeply about how play can be integrated throughout the research process to better center the contributions of youth participants we research alongside. In doing so, I offer three primary dimensions of research that play is best suited for: 1) In the selection of methods, including research sites, topic of study, and methods of data collection; 2) In the capacity of participatory design research projects aimed at fostering material change in communities, and; 3) In the co-analysis of qualitative video data alongside youth to deepen our understanding of meaningful learning situated within playful interaction.

Introduction

Decades of research on children's play have highlighted its deep connections to both early childhood development (Bergen, 2002; Goncu, 1987; Pellegrini, 2009; Piaget, 1952; Souto-Manning, 2017; Vygotsky, 1978) and learning across the lifespan (Duncan & Tarulli, 2003; Perone & Goncu, 2014; Gutierrez et al., 2019a; Wohlwend, 2008; Zosh et al., 2017). While research on the connections between play and learning have been well established in the field of the learning sciences (LS; Davis et al., 2019; DeLiema et al., 2019; Enyedy et al., 2012; Gutierrez et al., 2019a; Rogoff et al., 2016; Ryan et al., 2021), it is less common for play to be integrated as a part of the research process, such as in the design of qualitative research protocol (Killoh et al., 2005; Nicolopoulo et al., 2009), or as part of methodology of qualitative research on learning (Gutierrez et al., 2019a; Pugh et al., 2019).

In this paper, I discuss both historical and contemporary ways in which play and learning have been studied in various academic fields. I frame the concept of play as robust and varied as it relates to formal and informal learning environments and recommend directions of how the field can take up play in and across the research process to better center the contributions of stakeholders, primarily youth, in efforts of community collaboration. Towards this end, I ask the following question: *What might it mean to be playful throughout the research process when we study learning? How can play be integrated across the design of research interventions, our methodology, and our analysis we take up to capture the process of learning of rich, real-world contexts?*

It is worth noting that within academia, play has no universal definition or criteria across fields, and is of interest to many fields including evolutionary biology (Burghardt, 2010), anthropology (Gray, 2009), developmental psychology (Bergen, 2009), occupational therapy (Landreth, 2012) and education (Pellegrini, 2013) alike. Burghardt (2010) unpacked some of these definitions and emphasizes that "play is multifaceted, diverse, and complex. It resists easy definition and engages many disciplines" (p. 4). Rather, play is seen as a constellation of criteria and characteristics to identify and situate play within a particular theoretical and epistemological lens. For the purposes of this paper, I will define play broadly using Vygotsky's sociocultural definition of play as a cultural activity which takes up the imaginative and a negotiated set of rules (Vygotsky, 1978). I took up this conceptualization because it frames play as flexible and able to take on many different forms, such as roleplay, gameplay, sociodramatic play, and imaginary play. This way, when play is taken up in collaborative participatory research, it might ebb and flow, take on new forms dependent on the needs of the context, and be negotiated among participants within interaction.

Framing play

Historically, play has been primarily associated with early childhood development. Fred Rogers of Mr. Roger's Neighborhood once said that children's play is "often talked about as if it were a relief from serious learning. But for children, play is serious learning... In fact, play is really the work of childhood" (Rogers, 1995; p. 50). Playing is how children explore and learn about the world around them. In fact, many scholars consider play to be the leading activity, or the primary activity that guides cognitive and social development, of the preschool and kindergarten period (Duncan & Tarulli, 2003). For instance, imaginative play is the first time in which children begin to use pretense, or the ability to pretend and represent a thing as something else entirely (Lillard, 2015).

While play is deeply connected to the lived experiences of children, it is often rapidly stripped away and denied from learning environments (Gray, 2011; Miller and Almon, 2009; Nicolopoulou, 2010). Souto-Manning (2017) asserted that play must be maintained as a universal right for all children, and that treating it as a privilege (as the U.S. currently does) leads to denying, primarily minoritized children, the right to play as a means of discipline or punishment. For instance, Black boys are often stripped of their play in community spaces as a form of punishment – their bodies framed as criminal while playing – a matter which can cost them their very lives (Ladson-Billings, 2011). Before researchers and educators can possibly leverage play to support learning, we must understand what play is for various communities and cultures, and the importance it holds in our lives.

To move beyond play as merely a causal mechanism for development, educational researchers primarily concerned with learning throughout the lifespan aimed to operationalize play in research to understand how children learn in both formal and informal learning environments. For instance, Zosh et al. (2017) and the LEGO Foundation reported on characteristics of *playful learning experiences*, which are made optimal when an activity is 1) iterative; 2) socially interactive; 3) personally meaningful; 4) actively engaging; and 5) joyful. Further work done by the LEGO Foundation demonstrated that these characteristics of *playful learning experiences* are supported by recent trends in neuroscience research, which highlight playful learning experiences to be a contributing factor in the strengthening of neural networks associated with emotional regulation (amygdala), executive functioning (prefrontal cortex), memory (hippocampus), and dopamine pathways (Liu et al., 2017).

To study these *playful learning experiences*, Zosh et al. (2018) redefined play as existing on a spectrum to allow for greater possibilities in research designs. Beginning with unstructured free play created solely by children, the spectrum shifts to guided play where children lead their play alongside adults, then to games with explicit set of pre-established rules, followed by co-opted play led and created by adults, and finally playful instruction aimed at problem-solving activities and playful pedagogy (p.4). Through this conceptualization, play is no longer fixed to having a single, universal definition that can be inaccessible to those interested in play. Rather, the use of play in research on learning can fit the context it is in. Similarly, Nicolopoulou et al. (2013) highlights the importance of cultural practices in understanding the learning and development of people and claimed that the focus of research on play needs to be in its utility as a universal and valued cultural practice across cultures and can help researchers to deeply understand communities they work alongside.

Play as a guide for researching alongside communities

Recently, there have been calls to action within LS of how research on learning needs to better support research “alongside” communities as opposed to research “on” communities and foster transformative outcomes of equity and justice within research on learning (Booker et al., 2014; Uttamchandani, 2018). This emerged heavily in the last decade within the field as political realities of racism, sexism, homophobia, ableism, and xenophobia began to become more prevalent in mainstream cultural discourses (Politics of Learning Writing Collective, 2017).

In response, scholars have aimed their research on learning to better collaborate with community stakeholders in order to foster material change in local contexts, enabling students and youth to be transformative agents in their own lives through engaging in critical and cultural practices (Bang & Vossoughi, 2016; Gutierrez & Jurow, 2016; Gutierrez et al., 2020; Philip et al., 2018; Politics of Learning Writing Collective, 2017; Vakil & Ayers, 2019; Vossoughi & Gutierrez, 2014). Espinoza & Vossoughi (2020) discussed what it means to meaningfully participate in a learning community, and outlined steps to ensure we grant students dignity in their learning. Similarly, Gutierrez et al. (2019b) discussed aiming to teach students to become historical actors, who through participating in activities oriented towards social change become autonomous agents in designing their own futures. The question arises then, within this type of critical work, of what role does the concept of play serve in fostering this kind of participatory and action-oriented collaboration in the research process?

Currently, the use of play is under-theorized and under-utilized when it comes to participatory research alongside youth stakeholders, but recent work has called attention to the possibilities play holds in these contexts that seek to carry this work forward. Gutierrez et al. (2019a) framed play as a potential leading activity – which guides the learning and development of how to engage in imagining new futures – for doing this kind of consequential social design work with young children. They emphasized that co-designing learning activities around imaginative videogame play created opportunities for Latiné students to engage in “consequential forms of learning” across homelife practices and informal learning environments and support new forms of activity (p. 79). Play then has the generative potential to enable young students to become co-designers of instrumental designs for learning and architects of their own reimagined futures. Below, I outline three potential areas of focus along the qualitative research process in which play might be leveraged to better support collaboration alongside youth stakeholders which include playful design research, playful research methodology, and playful forms of qualitative analysis of video data.

Playful selection of qualitative methods and data

Play as methodology in the research process involves the “playification” of research, with consideration of playful research sites, playful learning activities as the context of study, and playful data collection (Campo et al., 2019). As an example, Nicolopoulou et al. (2009) rooted their research sites in Vivian Paley’s (2009) playful storytelling and story-acting to highlight the complexity that emerges in young children’s learning ecologies. Pugh et al. (2019) use video data of a roleplay activity as the unit of analysis during a nature walk which sought to highlight children’s complex socio-ecological understandings of human-nature relations. Medina et al. (2022) utilize play as a method for engaging in expansive literacy research with young children to surface the cultures, legacies, subjectivities, histories, and convictions of researchers and participants, alike. In the research process, play is framed as an improvisational and humanizing activity that facilitates new relational possibilities in participatory research.

When it comes to playful methods of research to better collaborate with youth, researchers may take up a community of practice (CoP) lens (Lave, 1996) to frame youth as conceptual “elders” of a play-based community. CoP emphasizes levels of legitimate participation within communities. At the center of any given community are experts or elders of that community. These individuals have the most experience in a given set of practices, so their contributions and interactions are centered within the community. I argue that youth should be considered the elders in play-based contexts, as they hold the closest connection to the cultural practice of play. For instance, Rogoff et al. (2016) outline play as a primary feature of the “hidden curriculum” of informal learning environments as they laid out the relevance and importance of learning outside of the classroom in the lives of K-12 children.

In this capacity, playful selection of methods of research help to center youths’ expertise of play in efforts of co-research. Research methodology is an area where stakeholders outside of the researchers, themselves, do not have much input in what kinds of methods or interventions to apply to a site of research (DeLiema et al., 2023). Playful methods of data collection and design of research interventions can help to leverage the perspectives of youth as to what is deemed important and worth investigating in a given research context. Play as an activity is a window into the cultural lives of its participants, centering play in our selection of methods can help to surface youths’ complex and varied lived experiences within qualitative forms of data and provide richer sets of data with which to study learning from. Indeed, if our goals as scholars are to connect with and involve our participants in processes of research, then play offers an opportunity for youth to directly influence and shape the decisions of selection of research site, methodology, and unit of analysis within our research projects.

Playful methods of participatory design

A mainstay research tradition that LS draws from is design-based research (DBR) paradigms, which follows an iterative engineering design process that seeks to provide a lens and core methodology to investigate theoretical claims about teaching and learning (Cobb et al., 2003; Design-Based Research Collective, 2003). Alternative, expansive views of DBR in the form of *participatory design research* (PDR) and *social design-based experiments* (SBDE) involve directly collaborating alongside communities throughout the design process and pursuing equity and justice-oriented goals rooted in local contexts by attending to dimensions of power in the research process such as processes of partnering, resistance to dominant forms of cultural capital, matters of refusal or silencing, and inclusion of epistemic heterogeneity (Bang & Vossoughi, 2016; Gutierrez & Jurow, 2016; Tuck & Yang, 2014).

These approaches can help foster long-term research-practice partnerships (RPPs) that bring together participants with disparate points of view, and through sustained collaborative engagement, work toward embracing and reflecting deeply on the divergences and uncertainties that occur at boundary crossings between community perspectives (Penuel et al., 2015). Play can be considered a boundary practice (Suchman, 1994) in this work, which can help disparate stakeholders in the research process come to better understand one another. As a significant cultural activity in children’s lives, play can illuminate a lens into community and household practices to create an important pathway for scholars to pursue play as a form of design research and seek to disrupt dominant forms of knowledge and integrate a heterogeneity of ideas surrounding communities of learning.

Within participatory frameworks of design, play can be taken up in two primary ways, designing *with* play and designing *for* play. Designing *with* play involves collaborators creating and iterating upon design ideas and activities through play and playful inquiry. For instance, Killoh et al. (2005) frame playful collaborative exploration alongside future users (students) in building digital tools by taking a game-like approach to turn field materials into design materials during an open-ended design process. Play as a boundary practice in participatory design settings holds the potential to address ongoing tensions in working with youth in PDR processes – including inherent power imbalances between youth and adult stakeholders when operating within pre-existing hierarchies of institutions, negative framing of youths’ ideas and decisions, limits on resources that youth have access to, and

constraints on the rules and procedures of the design process (Ozer et al., 2013). Designing *for* play involves working to design playful learning activities, materials, and experiences for contexts. Scholars in LS have followed suit and have taken up this path of research to more deeply understand how play supports learning within different contexts (Davis et al., 2019; DeLiema et al., 2019; Enyedy et al., 2012; Jen et al., 2021; Perone & Guncu, 2014; Ryan et al., 2021; Washinawatok et al., 2017).

Many scholars pursuing designing for play take up a sociocultural (Vygotsky, 1978) theory of learning to examine the robust learning that occurs in the contexts of children's everyday routines (Goncu & Vadeboncoeur, 2017). Wohlwend (2008) framed play as a cultural practice for young children to multimodally create meaning to develop literacy through play. Davis et al. (2019) took up the definition of play as a spectrum (Zosh et al., 2018), and evaluated both game and inquiry play activities on students' science learning in an embodied (i.e., using the body to explore phenomena) learning environment. Hedges (2011) leveraged children's pop culture funds of knowledge (Moll et al., 1992) – or the household bodies of knowledge of children's lived experiences – to support teachers in the co-design classroom curriculum. However, much of the work in designing for play and learning focused on pushing the expansive methods of co-designing alongside adult stakeholders, such as teachers and families in the community (Bang & Vossoughi, 2016; DeLiema et al., 2019; Washinawatok et al., 2017). Youth offer a unique perspective as local and cultural experts of play and how it is carried out. To better understand how to design meaningful playful learning experiences, youth ought to be directly involved and at the center of these design processes alongside researchers and other community stakeholders.

Similar to Zosh et al.'s (2018) spectrum of playful learning experiences, Hart (1992) describes a spectrum of children's participation in participatory design known as *ladders of participation*, a conceptual framework aimed at empowering youth in the participatory design process. While this spectrum provides concrete actions to center youth's voices and contributions in design, Hart (2008) also makes a call for expanding and creating new models to better understand ways in which students actively resist hegemonic norms; ways in which they are blocked or discouraged from participating; and whether design practices are youth-initiated or joint-initiated in practice. At its core, play is an ongoing and iterative negotiation of rules and roles of its participants (DeLiema et al., 2019), and as a boundary practice in participatory work with youth, play can work to address these ongoing tensions of power and constraints placed on youth by fostering a context aimed at constantly remediating and renegotiating the conditions of design processes to uplift and empower youth contributions, ideas, and decisions.

Playful methods of qualitative video analysis

A set of methods primed for adding a playful lens to are methods of qualitative video analysis. Video-based qualitative analysis of learning is an umbrella of methodology that allows for detailed investigation of complex human activity within learning environments by retroactively and iteratively reviewing activity through captured video (Derry et al., 2010). Erickson (2006) broadly outlines assumptions of video data in claiming that 1) face-to-face interaction is a social ecology and rooted in the social context (i.e. the culture and histories of a community) that it takes place in, and 2) that interaction is so complex that it can only be analyzed in highly selective ways, and in the case of studying learning, rooted in specific epistemological stances and theories of learning outlining specific goals of analysis (p. 7). These types of decisions influence considerations made during the research process, including: where to place cameras within a learning environment, how to select data for analysis (Derry et al., 2010), and ethical considerations on when to record data, or more importantly knowing when not to record interactions within learning environments (Tuck & Yang, 2014).

Qualitative researchers have also made efforts to shift to a more participatory model when it comes to video analysis methods. The added clarity that comes from qualitatively analyzing video data alongside adult participants of research is becoming well established in the field (DeLiema et al., 2023), but having youth participate as co-researchers is still rare. Goldman-Seagull & Goldman (2014) offer methods and perspectives on carrying out video-cued ethnography (Adair & Kurban, 2019) with children. They offer a comprehensive review of how video and other digital tools can support approaches to ethnography and open new understandings of how children view the world. A question remains, however, as to how this work shifts and what is added when youth become co-researchers and participate in co-analysis of their own interactional video data.

Scholars in LS have moved in the direction of carrying out qualitative analysis directly alongside youth participants, primarily in the capacity of PDR. Vossoughi and Zavala (2020) carried out co-analysis of interviews centered in a youth participatory action research (YPAR) project aimed at developing student writing situated in activism. They explicitly framed qualitative interviews with youth as relational learning experiences, and as an interaction between people rather than a call and response style researchers typically employ. Similarly, Greenberg (2020) presented what they term critical participatory co-analysis with youth to co-construct new knowledge and perspectives of ethnographic data. This method offers complex and critically informed findings which explicitly sought to resist hegemonic research norms and reimagine what it means to carry out qualitative

research. They assert that carrying out this form of participatory co-analysis of data alongside youth allowed for a commitment to multiple truths and power sharing in processes of research.

One method of video analysis that may prove a particularly rich context for co-analysis alongside youth is Interaction Analysis (IA; Jordan & Henderson, 1995). IA centers analysis around activities and the use of artifacts and technologies to identify routine practices and the resources in a context which mediate interaction. IA notes that, in interaction, people continually monitor those around them and adjust their own talk and body movements to respond to what is happening based on how they interpret activity (Jordan & Henderson, 1995). For example, DeLiema et al. (2019) took up IA to examine how elementary students used their bodies to imaginatively take on the role of water particles in the *science through technology enhanced play* (STEP) environment to pursue scientific inquiry. While IA and video analysis in general provide a powerful lens for closely studying interactions such as play in learning contexts, participants are often left out of analysis of video data, even in efforts of participatory research (DeLiema et al., 2023).

Taking up IA alongside youth can allow for an expansive view of interaction by bringing in a new depth and multivocality in what goes on in playful interaction. Additionally, inviting playful interaction *into* the IA process can support students in eliciting meaningful reflection and interpretation of video data. Qualitative methods of analysis take training and practice to develop, and as a result, oftentimes, youth taking part in the process may feel unqualified or that their voice holds less weight in comparison to the researchers, or in some cases, be silenced by the researcher's own expertise. To better empower their contributions and voices, researchers might invite youth to playfully co-analyze data through interactions such as reimagining interactional episodes, or even reimagining what they might have done differently upon reflection. Playful inquiry in reflecting on their own interactional data gives youth a platform to meaningfully contribute to qualitative research and ensures that they can articulate the full complexity of their thoughts and reflections.

Discussion

An important note is that in the spirit of centering youth in the process of participatory research, consent and assent of participants must be prioritized throughout the process, whether playful or not. Play is a form of self-expression, and a window into the complex and varied lived experiences of youth. In taking up play in our methodology, it is essential, as in play itself, to constantly be negotiating the terms and boundaries of the research process. Researchers should have ongoing conversations about sharing experiences, and when necessary, setting boundaries of refusal, and assessing when moments will and will not be recorded for data use when sensitive topics arise (Tuck & Yang, 2014). Keeping this in mind, researchers should be informed by existing frameworks on how to participate, design, and research alongside youth stakeholders (Alderson, 1999; Hart, 1992, 2008). Play is an inherently embodied experience and often involves using the body to express imaginative ideas. With this in mind, I encourage researchers to take up approaches to collaboration and research that include perspectives on bodily autonomy in how we communicate and talk about our bodies in these performative spaces (Vickery, 2022; Mathayas et al., 2022).

Researchers in pursuit of these methods of playful co-analysis and co-design should also take inspiration from Krishnamoorthy et al. (2021), who rooted their ideas of qualitative data in indigenous ways of knowing and treated data from participants as a gift they share with the community rather than something to be extracted from participants. Integrating playful inquiry into this process by inviting students to reenact interactions or roleplay how an interaction might have gone differently can act as an integrative and accessible cultural practice to support heterogeneous ways of knowing and encourage youth to organize and reflect on their playful interactions in deep and meaningful ways, producing a rich tapestry of learning.

This paper is by no means an exhaustive list of the possibilities play can produce in PDR. Rather, I hope it serves as the beginnings of a dialogue alongside the field on how we might better center the voices of youth in research. Indeed, many questions remain as to what kinds of methodology, design, and analysis play might situate itself in within research on learning. *Who gets to play in processes of research? What kinds of play are valued in these spaces?* Additionally, I want to be clear that I do not intend to frame play as inherently equitable or critically oriented. In fact, without researchers engaging in processes of criticality, and interrogating their own positionalities within matrices of power, play may indeed serve to reify hegemonic and oppressive power dynamics in processes of co-research and co-design. If researchers seek to leverage play to empower the voices of youth in participatory research, then we must commit ourselves to intentionally resisting existing hegemonic norms and enable youth to reimagine their futures through the research they carry out with us.

Conclusion

To close out this paper, I make a call to the field to think deeply about how play might become a significant activity to ground aspects of the research process in, including the design and methods of research on learning.

The current research is limited, and additional work is needed to highlight how play can foster collaboration in working alongside communities, especially children who are experts in not only play but their lived experiences expressed through play.

As I have highlighted here though, play as an element of the research process can help to make participatory environments more welcoming and empowering for young stakeholders to share and express their ideas to guide processes of design, *what might play offer in pursuing design research seeking to expand the ways we understand learning in and across communities?* The field of LS has long recognized the importance of play in understanding the complex cultural fabric of communities and can be an instrument for epistemic heterogeneity and consequential social change for marginalized communities (Gutierrez et al., 2020). It is time to explore how play might foster new understandings of what we are able to do as researchers alongside the youth whose learning we seek to understand and design consequential learning for.

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