



Participatory Creativity and Maker Empowerment: A Conversation with Edward Clapp, Ed.D

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Participating in creativity isn't passive, it's an active thing we do. Creativity is always socially and culturally situated — Dr. Edward Clapp

Technology design is inherently a moral activity. Designers, by designing artifacts, will inevitably play a mediating role in people's actions and experience, are thus helping to shape (moral) decisions and practices — Peter-Paul Verbeek

Introduction

Over the past five years, the Deep Play Research Group has engaged in a series of interviews with creativity scholars. Throughout this series, we have encountered a wide array of definitions and perspectives on creativity, including several scholars that emphasize creativity as socially situated. For example, from a sociocultural perspective, Glaveneau described creativity as a byproduct of the interaction of the self, others, and cultural artifacts (Keenan-Lechel and Henriksen, 2019; see also Glaveneau et al., 2019). Kaufman described the importance of creating things that are contextualized, useful, and have long-lasting implications, highlighting the relationship between creativity, making, and social impact (Keenan-Lechel et al., 2018, 2019; see also Kaufman, 2018). In this article, we continue to explore the social and agentic nature of creativity through the work of Dr. Edward Clapp, a principal investigator at Project Zero, a research center at the

Harvard Graduate School of Education. Recently, we had the honor of interviewing Dr. Clapp. He offers a participatory perspective on creativity, highlighting how participation in makerspaces and other teaching and learning environments can support creativity and empowerment.

Dr. Clapp's relationship with creativity began as a young professional. Armed with degrees in both the visual arts and creative writing, Dr. Clapp moved to New York City with dreams of becoming a professional artist. Amongst other pursuits, he co-founded a theater company and served as its resident playwright while gigging as a teaching artist. Before beginning doctoral work at the Harvard Graduate School of Education, Clapp established himself as an arts educator and administrator.

Years later, Dr. Clapp is a principal investigator at Project Zero where he works on various research projects around a variety of themes including design and maker-centered learning, creativity and innovation, school design, contemporary approaches to arts education, and the connections between creativity and diversity, equity, inclusion, and ethics. He is the author of *Participatory Creativity: Introducing Access and Equity Into the Creative Classroom* (2016), co-author of *Maker Centered Learning: Empowering Young People to Shape Their Worlds* (2016), and co-author of the *Maker-Centered Learning Playbook for Early Childhood Education* (2020).

In this article, we begin by describing Dr. Clapp's participatory perspective on creativity—that creativity is a distributed process that occurs across a network of actors. We then explore the participatory nature of maker-centered learning, including its connection to agency, empowerment, and social justice. Finally, we explore the ethical dimensions of making, creativity, and design.

A Participatory Perspective on Creativity

Sociocultural perspectives on creativity explore creativity as happening across self, others, and cultural artifacts (Connery et al., 2010; Glăveanu, 2011). From this perspective, creativity does not reside in a single individual,

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but is spread across space and time. Dr. Clapp expands this notion to emphasize the participatory nature of creativity, which he defines as “a distributed process of idea development that takes place over time and incorporates the contributions of a diverse network of actors, each of whom uniquely participates in the development of creative ideas.” In cultures and institutions where creativity is regarded as an individual endeavor (such as in the United States), this might be a difficult concept to internalize. Dr. Clapp explains his ideas by focusing on a few core questions, including the *what*, *who*, and *where* of creativity.

First, if creativity is distributed across space and time, what is it? Dr. Clapp places the *what* of creativity on the creative *idea*. He defines an idea as “an ever-evolving conceptual throughline that is embodied through a succession of innovative products.” These products can include both concrete objects and verbal communication. The idea, then, becomes the *what* of creativity.

Describing creativity as residing in an idea offers a stark contrast to individualistic approaches to creativity, where creativity exists in a single individual. This position has several important implications. First, it emphasizes that people are not creative, ideas are creative. This reframing opens space to explore a wide range of actors that influence the trajectory of an idea. Csikszentmihalyi (2014) also considered the range of actors that influence an idea in his systems view of creativity. From his perspective, creativity emerges through transactions amongst a person, a domain (cultural influences, including language and symbols), and a field (those who impact a domain, such as scholars and practitioners in the area of interest). The domain provides a symbol system and language that influence ideas, and a field’s judgments determine which ideas persist. An idea might emerge from a person’s experiences, partly as a result of cognitive flexibility, but that idea, “existed long before the creative person arrived on the scene” (Csikszentmihalyi, 2014, p. 51) in the ideas of previous individuals and embedded in culture and symbols. In contrast to Csikszentmihalyi, Dr. Clapp does not believe in the concept of a creative individual. Instead, he emphasizes creativity as emerging through the interaction of diverse actors and placed on the idea itself.

Second, placing the *what* of creativity in an idea pushes against what is often called the “great man” approach to creativity. This individualistic emphasis is problematic, especially when it comes to who is generally credited as creative. The approach often focuses on a narrow set of individual abilities and—within the dominant white culture of the West—exhibits racial and gender bias by mostly celebrating white men. Moving creativity to the idea opens space for the recognition of a wider array of actors in the ongoing development of ideas.

If creativity resides in an idea—and is the result of transactions across people, domains, and fields—it no longer makes sense to study creativity through individual achievements,

processes, or endowments. As an alternative, Dr. Clapp suggests investigating creativity through the “biography of an idea”: tracing the artifacts and contributing actors across time and space, considering “the multiple forms a creative idea has taken throughout its evolution, as well as the steps, missteps, and interactions that took place along the way” (Clapp, 2017, p.34). Dr. Clapp draws upon Latour’s (1987, 1996) Actor-Network theory to explore the actors that contribute to a creative idea. Importantly, he suggests actors (or agents) are not limited to humans, but also non-human entities, including materials, technologies, symbol systems, and an array of animals and elements from the natural world. For example, consider the agents engaged in producing a new piece of music. These agents include not just musicians and composers, but also various technologies such as instruments and electronic tools as well as musical language, including notation and patterns. Each impacts the resulting musical event, both affording and constraining actions of the other agents. Each plays a role in the creative system.

In our contemporary times, emerging technologies, such as artificial intelligence, might especially participate in creativity in unique ways. Dr. Clapp conjectured:

What will it mean not to just use technology as a vehicle, but engage technology as a collaborator? Not like working with robots and you and the robot are in there with Post-it Notes brainstorming, but . . . how do we leverage technology, not just as a vehicle, but as an actor within the development of creative ideas?

The relationship between humans and emerging technologies suggests new possibilities for participatory creativity. The human and non-human actors both participate in this evolution, where the human’s ideas are “refracted through the lens of the computational tool” (Mishra & Yadav, 2013).

If the *what* of creativity is the idea, and the *who* of creativity is a diverse mixture of human and non-human actors (across space and time), the *where* of creativity might reside in the artifacts resulting from these transactions. In other words, as an idea shifts and morphs across time, participants create multiple artifacts that hold that idea. The analysis of artifacts highlights another dimension of creativity: putting an idea into a concrete form supports, or is a type of, learning. This connection between participatory creativity, learning, and creating brings us to another theme in Dr. Clapp’s work: maker-centered learning.

The Participatory Nature of Maker-Centered Learning

In 2006, a Maker Faire in San Mateo, California helped launch what would soon become known as the *Maker Movement* (see Clapp et al., 2016). The maker movement stresses creation over consumption while exploring modern technologies and emphasizing a hands-on approach to creativity

and design. Many teachers have used “making” as a vehicle for integrating science, technology, and the arts into education while also supporting community and collaboration.

Project Zero scholars studied making in depth through a project called *Agency by Design* (Clapp et al., 2016). They found making can support a powerful pedagogical approach, what Dr. Clapp and his colleagues call maker-centered learning. Maker-centered learning hinges on inclusive social environments that support learners to exercise their agency through making. The goal of maker-centered learning is, above all, inclusion, “providing an opportunity for all students to develop a sense of maker-empowerment” (Clapp et al., 2016, p. 84).

Rather than designate a specific set of parameters that educators must follow to engage in creating space for maker-centered learning, Dr. Clapp and his colleagues explore the question, “What are some of the key characteristics of the educational environments and instructional designs under which maker-centered learning thrives?” (Clapp et al., 2016, p.44). This Wittgensteinian approach to defining a makerspace, and even makers themselves, allows for Dr. Clapp and his colleagues to illustrate the “symptoms” of makers and maker-centered learning experiences by highlighting the common themes that play across different landscapes. These characteristics do not all have to be present to support maker-centered learning, but some combination indicate a maker-centered pedagogical approach.

Dr. Clapp and his colleagues (2016) described the “symptoms” of maker-centered learning in three categories: community, process, and environment. Community characteristics include collaboration and an emphasis on different forms of expertise. Process describes the types of activities and learning, such as curiosity-driven exploration, interdisciplinary problem solving, and experimentation. Finally, maker-centered learning environments are usually open spaces with various tools and media.

Through emphasizing maker-centered learning, Dr. Clapp hopes to disrupt the common narrative of tech savvy individuals (usually white males) hacking in a high-tech lab. Rather, maker-centered learning thrives on diversity in participants and environments. It is more inclusive of diverse skills and backgrounds, and anyone can serve as a teacher (Clapp et al., 2016), as each participant contributes their unique expertise to the effort. Importantly, instead of a physical place, Dr. Clapp and his colleagues suggest that making should begin with “a framework for thinking and learning” (Clapp et al., 2016, p. 84). He pushes against the idea that making requires fancy, expensive tools, and technologies, asserting that maker-centered learning can also thrive in low-tech and no-tech environments.

Similar to participatory creativity, the participants of maker-centered learning include human and non-human actors. The approach encourages learners to connect

with external experts for specific support not available within the immediate group, including through the use of technological tools. Agency can be developed by giving students the space to access information independently through the Internet and other channels (Clapp et al., 2016), and tools, technologies, materials, and individual makers are participants of the activity.

Agency and Maker-Centered Learning

An essential component of maker-centered learning is maker empowerment, the notion that makers should develop a sensitivity to design and a desire to interact with the world with the purpose of improving it. Maker-centered learning supports empowerment because through making, people learn how things work, which then gives them the ability to change or improve the objects and systems that impact their lives. Dr. Clapp and his colleagues describe the pervasive passivity many people have when they encounter human made and developed systems. They write, “Many of the objects that people use today lack transparency. The slick shells of many of our favorite devices do not invite one to see how the parts hidden beneath them work” (Clapp et al., 2016, p.112). Considering how everyday items are constructed (sometimes literally cracking the “slick shell”) can help makers consider other ways of constructing them. In other words, simply noticing the design opens space for change, empowering makers to shape their worlds.

Noticing in making connects to creativity and design; all concern seeing something in a new way. Creativity requires seeing possible variations on what exists. “The most creative work seems to arise not from merely tweaking the obvious variables, but from working with variables many people cannot obviously see” (Mishra & Henriksen, 2014, p 23). This is similar to what Buchanan (1992) labels “indeterminacy”: the recognition that there is no single solution to a problem. The indeterminacy of a problem space requires the designer to engage in a sequence of “see-move-see” (Schön & Wiggins, 1992, p. 135). Learning to see indeterminacy, taking some action (making a move) to work in that indeterminacy, and reflecting on the results are each critical pieces of design (Warr, 2021). The last piece of this sequence—reflecting on the results of making or actions—requires not just noticing and creativity, but judging consequences of our design moves, particularly the ethical implications of those actions.

Agency and Ethics

For Dr. Clapp and his colleague's, the *why* of maker-centered learning centers on helping makers achieve a sense of agency—and ultimately using that agency to positively affect society. In our discussion, Dr. Clapp effortlessly weaved together the concepts of agency, maker empowerment, ethics, and social justice. Here we explore two important connections regarding making and ethics: first, how making can disrupt cycles of waste, empowering the maker to take control over their environment, and second, the importance of emphasizing ethics in maker-centered learning.

First, Dr. Clapp highlighted the impact making can have on the negative effects of waste in society, what he calls a “throwaway culture.” Rather than fixing or repurposing items, most individuals today simply replace them. This mentality encourages people to disregard how products are made, where products are made, and who makes them. The maker movement tackles the ethics of resource use and development by “activating a sense of agency, to assert control over the environment” (Clapp et al., 2016, p. 115; see also *Cultivating a repair mindset toolkit*, (n.d)). In other words, by developing the skills and habits of understanding and improving on the systems and objects around them, makers can begin to disrupt the throwaway culture. They are empowered to rethink, tinker, and improve on what is broken, rather than mindlessly replacing it. Making, then, becomes an emancipatory tool that allows makers to take powerful materials and reimagine them for the greater good (Blikstein, 2013).

The second connection between making and ethics concerns the responsibility makers have to consider the ethical implications of what they make. Dr. Clapp explained:

I think it's important that if we're going to equip young people to be creative, or when we equip them to be innovative, we're going to empower them to shape their worlds, we have to at the same time have questions about ethics and morality. I think that acting ethically should be at the heart of our conversation.

Here we draw on ideas that span the fields of making, creativity, and design to further the argument that ethics must be at the center of any creative action.

Although society tends to perceive concepts such as making, creativity, and design positively, not everything that is created benefits society. For example, Buchanan argued that one of the most significant designed products of the twentieth century was the Holocaust: “It was designed thoroughly, but with a horrifying ethical foundation” (in Henriksen, 2019, p. 26). Evident here is that design—and making—can be used for good and bad; they are without ethical direction. In this sense, without appropriate scaffolding, creative work could be considered void of “ethical action” (Whitbeck, 2011).

Because making lacks ethical direction, makers must learn to carefully consider how their creations may impact others. Rather than focusing on profitability, maker-centered learning should be anchored in a sensitivity to the impacts of what is made (see Henriksen & Mishra, 2020). In this way, centering ethics in maker-centered learning supports the development of a type of ethical sensitivity or noticing. Not only do makers learn to notice how things work on a technical level, they might also notice the ethical impacts of products and systems. This type of principled innovation must recognize the impossibility of fully understanding the long-term impacts of creation while at the same time practicing a type of moral imagination that continually centers impact.

Ultimately, emphasizing ethics in maker-centered learning must be anchored in a respect and concern for others. In relationship to design, Buchanan stated, “design is significant because of its concern for human beings. Without that principled concern for the dignity of human beings, it's worthless” (in Henriksen & Mishra, 2018, p. 2019). A similar argument could be made for all creative activity, where agents—both human and non-human—participate in the development of ideas that impact not just the makers, but all of society. Ultimately, making can empower creative participants to address unjust systems.

One example of using maker-centered learning to focus on justice, equity, and inclusion is the project *JusticexDesign*, an initiative spearheaded by Sarah Sheya with the support of Dr. Clapp and others. *JusticexDesign* endeavors to give students a space to examine the context and complexity of human designed systems and what ways students can participate in disrupting or redesigning their own involvement in these systems (JusticexDesign, n.d.; Sheya et al., 2020). This type of maker-centered learning helps students see the connections between themselves and power structures that have led to our current technologies and systems. Thus, maker empowerment emancipates more than the individual person; it supports ethical thinking that can tackle inequitable systems.

Conclusion

In this article we have explored Dr. Clapp's concept of participatory creativity and its implications on his work with maker-centered learning. Dr. Clapp's work on participatory creativity does not provide a rubric or process of evaluation by which creativity can be scored, it requires a change of mindset. It encourages us to look past the importance of individual collaborators, past the idea of the “great man” as the originator of creativity, past the idea that making must start and finish with a specific group, in a specific place, with a specific set of skills.

If we accept the premise that creativity, and making, can and do happen everywhere, and that maker-centered learning exemplifies participatory creativity, then maker-centered learning is uniquely positioned to address issues of diversity, equity, and inclusion. Dr. Clapp's work emphasizes the need to center ethics in making and creativity and illustrates how maker-centered learning can be used to empower makers to build a more just and equitable society.

Participatory creativity provides a lens through which all makers work together towards a common goal, celebrating the diversity of the participants as they contribute their unique skills, different cultural perspectives, and varied life experiences to explore an idea. This sense of continuity and lasting value imbued by engaging in creative work means making is, as Dr. Clapp eloquently stated, "an inherent part to what it means to be human."

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