Reframing Creativity as a Distributed and Participatory Process

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Let's start with a little thought experiment… whatever your definition of creativity may be, however you understand this concept, I want you to think for a moment about a time when you saw creativity in action. Either amongst young people or adults, either based on your own experience or those of others, picture in your mind a time when you saw creativity happen.

Now share your instance of creativity with a person next to you.

So we've all just described to one another an instance where we saw creativity in action. My question then, is *what does it look like?*

By a show of hands, how many people identified instances of creativity that in some way involved either teamwork or collaboration?

During my remaining time I'm going to attempt to make the case that creativity is not an individual capacity, but instead a distributed and participatory process. Rather than attempt to develop educational structures that increase individual student creativity I argue that it is more important to pursue an understanding of the unique learning that accrues to young people when they *participate* in the development of group-generated creative ideas.

Introduction
Here in the United States we have a fond affection for our heroes, our valedictorians, our Oscar winning actors, and our Olympic medalists. Our achievement-based culture has taught us to praise the accomplishments of individuals. Even when a sports team collectively wins a national title, we are quick to seek out the hero amongst heroes—and award that person the title of MVP. But if we take the time to parse out the work of the most accomplished amongst us, we'll quickly learn that no feat of excellence, and certainly no act of creativity, can take place in isolation.

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[1] To view a video of this presentation, please visit the following URL:
https://www.youtube.com/watch?v=1C5bcRxCfzw&index=10&list=PL9KLofKUywsGUxq41NCq8eL1dTkrk_hSG

The same is true with learning and development. Project Zero research with preschool teachers in Reggio Emilia, Italy has taught us that "much, if not most, of the learning that goes on in and out of schools happens through the interactions of groups." Likewise, the work of famed psychologist Lev Vygotsky asserts that all learning and development is social. Consistent with these perspectives, my research further suggests that creativity is not a solitary endeavor, but rather a socially distributed and participatory process.

A Brief History Lesson
But before digging into my own research, I want to pause for a moment to explore a bit of creativity history. In 1950, a psychometrician by the name of J. P. Guilford made a bold speech to the American Psychological Association. Within this speech Guilford argued for the importance of creativity research, particularly as it related to education. "Why is there so little apparent correlation between education and creative productiveness?" he asked. "Why do we not produce a larger number of creative geniuses than we do, under supposedly enlightened, modern educational practices?"

Speaking just before the dawn of the Cognitive Revolution, Guilford's 1950 address served as a prominent push towards understanding more about the elusive concept of creativity. But Guilford set the stage for creativity research in a complicated way. By defining creativity as a set of personality traits correlated with genius, Guilford promoted an understanding of the creative *individual*. As a result, creativity "tests," such as the Torrance Tests of Creative Thinking, were established to measure cognitive traits that served as a proxy for individual creativity, and for decades researchers and educators alike acted under the assumption that creativity was an innate individual capacity.

But then the field of cognitive psychology took a curious turn. During the 1980s the concept of *distributed cognition* came into play. This is the idea that cognitive processes are not restricted to individuals but rather distributed across social groups, technologies, and environments.

Edwin Hutchins, a cognitive psychologist at UC San Diego, provides us with multiple examples of distributed cognition from his observations of aircraft and naval ship navigation. Hutchins concludes that "human cognition is always situated in a complex sociocultural world and cannot be unaffected by it" (Hutchins, 1995, p. xiii).

As the idea of distributed cognition increased in popularity, distributed, group, and collaborative understandings of creativity began to emerge. Today, it is common for creativity researchers to recognize that the myth of the individual creative genius no longer applies when creativity is understood as a socially distributed construct.

Distributed Creativity is All Around Us
Examples of distributed creativity are all around us. One of the core principles of design thinking, for instance, is that innovative solutions to the world's most complex problems can be developed by diverse groups of people working together through an iterative process of group

ideation and rapid prototyping. The rising Maker Movement further promotes invention through the use of open-source information sharing and learning from others within interdisciplinary environments that incorporate multiple tools and technologies. Throughout the Internet, distributed creativity takes place amongst a variety of individuals who may never meet—such as amateur coders helping software developers refine beta versions of their products; online participants adding new plotlines, characters, and narratives to Web-based role playing games, or; young people downloading and remixing content they find on interactive platforms such as YouTube and Scratch. As Dr. Rolling's recent book on Swarm Intelligence notes, collaborative innovation networks of self-motivated individuals prompt invention and innovation throughout the business, government, and social sectors.

The Crisis of Creativity in Education
Despite the prominence of distributed creativity in theory and practice, the educational sphere largely retains individual orientations towards creativity—and the "tests" used to measure it. I believe that holding onto such traditional, individual-based understandings of creativity is detrimental to children in four ways. **First**, a focus on the creative individual sets up the potential for educators and administrators to determine that some students are more creative than others, or worse—that some students are creative, and others are not. Such an approach to creativity development poses the risk of placing students into educational and career tracks that may fail to capture their full potential. **Second**, as with IQ tests—individual-based creativity tests may instill within young people the sense that one's creativity is a fixed capacity. As a result, students may develop what psychologist Carol Dweck refers to as an anti-growth mindset that psychologically discourages them from participating in the development of creative ideas. **Third**, individual orientations towards creativity deny young people the opportunity to learn from, and invent with, one another. And **lastly**, an educational focus on individual creativity is incongruous with the needs of innovative workplaces that no longer seek lone innovators, but rather employ collaborative work-groups that incorporate the expertise of diverse individuals.

Reframing Creativity as a Distributed and Participatory Process
I believe that where creativity is concerned, educators are largely focused on the wrong unit of analysis. Rather than attempt to develop educational structures that increase individual student creativity, I argue that it is more important to pursue an understanding of the unique learning that accrues to young people when they participate in the development of group-generated creative ideas. Reframing creativity as a participatory experience will require what some may consider a radical epistemological shift: moving the locus of creativity from *individuals* to *ideas*. In other words, suggesting that *individuals* are not creative, *ideas* are creative, and there are multiple ways for a variety of individuals to *participate* in group-generated creative ideas.

That's my conceptual framework. That's my theoretical positioning. If we are going to truly understand creativity in education, we have to look beyond the skull and the skin of individual students. No test can be established to measure individual student creativity, because creativity is

not an individual construct.

But what does this look like in practice?

My research explores students engaged in a Boston-based art + design afterschool program where young people work in project teams to develop ideas at the cutting edge of the arts and sciences. The four primary findings from this study indicate that…

1. First, as they develop creative ideas, students assume roles based on the talents and skills they bring to their work with their groups, but these roles are neither fixed nor uni-dimensional.
2. Second, when idea development is structured as a distributed and participatory experience creativity becomes a double-loop process of dialectical learning and development.
3. Third, creative ideas evolve when a local group of contributors engage with a broader constellation of actors.
4. And fourth, the creativity educator becomes a participant in student generated project ideas and learns along with his/her students as a result.

By reframing creativity as an educational experience students participate in, rather than something one either *is* or *has*, we can make participating in creativity accessible to all students, and relieve the stress of fostering creativity *within* individuals that many educators now face. In turn, a participatory approach to creativity allows for the emergence of new pedagogical practices aimed at developing teaching and learning environments where creative ideas—and the broad spectrum of individuals who participate in those ideas—may flourish.