

Leveraging Experimental and Credentialing Capital in Scientific Educational Programming for More Inclusive Outreach

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Typically we think of scientific outreach as an effort to interest youth in STEM education and careers; in that sense science offers the value, and youth can accept or reject it. Generative justice offers a new take on scientific outreach. Generative justice is focused on helping a community become more aware of its nascent or unrecognized capabilities and resources, less vulnerable to their extraction or misuse, and more proficient in circulating these resources back to the community to fuel additional value generation. I am particularly interested in the ways that youth participation and aspirations in sports can be seen as those nascent or unrecognized capabilities and resources. While the value of sports for the sake of sports is not unrecognized—to the contrary it is often over-hyped--its connections to science often are unrecognized, and indeed can even been viewed as science's opposite (cool athletes as opposed to awkward nerds).

Furthermore, sports can act as the kind of extractive mechanism that Generative Justice critiques; ensuring that the passion and energy of underrepresented youth is directed away from the careers in which they can gain social power. Thus a generative justice approach to the relationship between sports and science would begin by making those invisible potentials for STEM value generation more comprehensible and accessible to youth with an interest in sports. My work explores these invisible connections in two different domains. First, in the case of the youth themselves, I have found that many sports phenomena offer a context in which youth can be actively engaged in experimental activities: simulations, measurements, hypothesis generation, etc. In other words, the passion that sports ignite in the youth can serve as an unrecognized form of “experimental capital” in which they establish a sense of ownership over a fascinating area of STEM research. Second, in the case of the scientific community, sports can act as a kind of two-way bridge in which some scientists and youth can move in both directions. I refer to this phenomena as “credentialing capital.” I first traversed this bridge unknowingly; I personally found my passion for the study of human biomechanics as an outgrowth for my love of basketball. My research makes me a better player, a more informed spectator and generally a more appreciative consumer of all things basketball. Having stumbled into the connection, I am now seeking ways to make that bridge more widely available from both ends: more scientists

recognizing how their own physical activities – perhaps not even limited to sports but other forms of embodied knowledge as well—can offer them the “credentials” to move across that bridge to connect with youth of similar interests. And simultaneously, I am exploring the ways in which youth can also credential themselves to make that journey in the opposite direction. Both the experimental capital of sports as a learning context for scientific exploration, and credentialing capital as an invitation to cross between those two worlds, offer new opportunities to achieve more inclusive outreach because the interaction between the scientist and the students are not predicated on a previous interest in science on the part of the student. Instead the shared interest between the student and credentialed scientist serve as the initial connection which can be expanded to collaboration for the exploration of new forms of shared experimental capital. Experimental and credentialing capital make these resources more accessible, resist the extraction of their value, and recirculate in ways that generate justice for underrepresented youth and scientific communities alike.

Applications of Generative Justice in a Grassroots Effort to Improve Youth Outcomes in the Capital Region

John Scott and Ron Eglash

Society has many issues that need to be rectified in order for us to live in a world that embodies justice. The inner city youth I work with come from families that work hard, yet have little income to show for it. Why should they be optimistic about education if they see that hard work leads to no gains? 4th Family Incorporated is a not-for-profit organization that is designed to address this contradiction. Our vision is a society that exudes integrity, encourages education, produces leaders, and fosters growth for the ascension of the individual and the community as a whole.

4th Family practices many principles found in Generative Justice. In our case, the “extraction of “value” is often simply the fact that those who are successful tend to leave the community. This is more complicated than the idea of value extraction in the exploitation of labor. When manual laborers are not paid anywhere near the full value of the labor they put in, it is clearly unjust to extract that value. But when someone works hard to escape poverty, it is tricky to criticize them for wanting to leave. Generative Justice can help us think about ways to resolve that contradiction from a theoretical point of view. I see 4th family as an example of putting that theory to practice.

4th Family provides a platform for people to become reengaged with their community. Although I too am guilty of running off to New York City to chase my dreams, there was never any doubt in my mind that I would return one day to try and make a difference. I soon realized that many others would love to have that opportunity as well: in the language of Generative Justice, there is an opportunity to change the flow of value such that it recirculates rather than becoming extracted. This is much more difficult to actually implement than it sounds in theory. In this talk I will detail some of the activities and programs we have experimented with, and attempt to draw some conclusions that could serve as a general model for any group that wants to take a generative justice approach to community development.

