Projected Worlds: How Informal Digital Learning Organizations Conceptualize Organizing Youth Futures

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Abstract: Understanding learning as an inherently value-laden and socio-political process is increasingly a concern of the Learning Sciences, and this focus forces us to confront fundamental questions relating to the purposes of learning and the multiplicity of possible and intended futures for learners implied by their learning environments. In this study, we utilize the framework of 'learning as the organization of social futures' – one that simultaneously foregrounds values and their expressions within learning activity – to understand orientations of informal digital learning organizations. The study focuses on three organizations, all part of a larger research-practice partnership. Utilizing staff interviews and organizational documentation, our findings show that the kinds of social futures valued by informal digital learning organizations varied in (1) how *specified* versus *open-ended* these futures were, (2) their focus on *access to existing social futures* vs *creation of alternative social realities* in order to allow new possible futures, (3) their relative focus on *individual* versus *collective* futures, with each of these dimensions having implications in terms of ways that pedagogies are designed within these organizations.

As Learning Scientists increasingly aim to conceptualize learning more explicitly through socio-political and historical frameworks (McWilliams & Penuel, 2016; PLWC, 2017), we must confront fundamental questions related to the purposes of learning, the underlying values that drive the design of learning environments, and the kinds of futures those environments imply for learners. In doing so, an understanding of learning as "the organizing of access to valued social futures" (O'Connor & Allen, 2010) helps us to simultaneously foreground both the value-based commitments of learning environments - what sorts of worlds they are implying, their *telos* - and the structural mechanisms and practices they employ to make those worlds possible for learners.

The following study uses this framework of organizing social futures to explore another area that has been a historical focus of the Learning Sciences - informal learning with technology, specifically within the context of informal out of school organizations (Santo, 2017a; Kafai et al., 2009). In doing so, we attempt to make more transparent the ways that such learning settings conceptualize their role and how technology plays a part in it. Given the relevance of informal learning environments within larger STEM and digital learning ecosystems (Acholonu, Pinkard & Martin, 2015; Ching et al., 2016), it is valuable to consider the roles they might play in supporting learning pathways across settings. In doing so, the study bridges two current areas of scholarship: studies exploring the place of ideological commitments and underlying value systems of learning environments, and studies that focus on cross-setting learning pathways and ecosystems. Our objective is to show how designed learning pathways are themselves always imbued with, and should intentionally contend with, commitments about which social futures are valued.

We focus on three informal learning organizations, all part of a larger research-practice partnership co-facilitated by the authors. All are community-based, located across urban centers in the United States and have self-identified as being engaged with digital learning in the context of their youth programs. All serve minoritized, low income communities and have explicit, though nuanced and distinct, commitments to equity. In order to understand these organizations' orientations towards valued social futures and the ways that technology relates to the organization of access to those futures, the research team engaged in 2 hour interviews with staff at each of the organizations which were augmented and triangulated with organizational documentation and participant observation.

Our findings show that the kinds of social futures valued by informal digital learning organizations varied in (1) how *specified* versus *open-ended* these futures were, (2) their focus on *access to existing social futures* vs *creation of alternative social realities*, and (3) relative focus on *individual* versus *collective* futures.

The first organization, LightLine, represented open-ended futures to be achieved through pedagogies and technologies associated with creative, collaborative 'making'. The executive director shared that he wanted to "eliminate all notions of an end point for a kid" and that "we don't believe that a kid's road to success is being the thing that is in demand right now. […] We want the kids to have their own opinions about what their road to

success is." The strategy to not focus on organizing towards any highly specified social future either in terms of academic, professional or civic engagement was indexed in the ways that they approached their pedagogy and the place of technologies within it. Students worked on what could be seen as somewhat idiosyncratic and even whimsical 'maker' projects, and the usage of technology in their pedagogy was determined largely based on its utility in supporting more generalist orientations to creativity and collaboration. LightLine's implied social futures were largely (1) *open-ended* in the sense that they were not linked to highly specified social world or discipline, (2) had a relative focus on the social futures of *individuals* rather than collectives, though it implicitly saw collaborative activity as a feature of those futures and (3) generally did not address whether valued social futures involved participating in existing social structures or creating alternative social realities.

A second organization, TinkerSpace, is a community-based technology education organization based in mid-sized Northeastern city describes itself as a "maker space" and "tech center" serving non-dominant youth. Its conceptualization of valued social futures for its youth rests on an idea of "having an economically sustainable job or career and being a contributor back to your community." Their focus on technology career-readiness indexed a somewhat more specified *professional* future, but it's broad commitment to "being a contributor" indexed a more open-ended *civic* future. This more specified professional orientation was reflected in their approach to which technologies they taught their youth to use, framing these choices as being about balancing "applicability with accessibility", such as using the free, open source GIMP photo editor as opposed the more expensive but professional standard of Photoshop. Overall, their talk reflected a commitment to supporting individuals to access existing social futures currently out of reach.

Of the three, the final organization, Thrivewire, a computing education organization rooted in a high poverty area in a large northeastern city, shared the most highly specified conceptualization of social futures for its students. Their organization fused a strong pre-professional orientation and advanced technical computing skills training for individual non-dominant youth with a socio-political vision of "bootstrapping a technology ecosystem" in their region and of supporting alumni to "create their own economy", one that was seen as largely separate from the broader, white and upper middle class dominated technology sector and that would "beat them to market". In order to do so, it made choices about teaching with technology that were heavily driven by market trends and where it projected greatest areas of labor need would be. Thrivewire's conceptualization of social futures was highly-specified, and collectively-oriented towards creating an alternative social order.

Examining the projected futures that informal digital learning organizations imagine and aim to organize for their youth allows a deeper understanding of the kinds of underlying values that guide their work, ones that this study shows are far from unidimensional. Similarly, the analysis reveals diversity in the ways that such organizations think about the role of and decisions around technology as it relates to the organization of those futures. Within the context of the larger project of building cross-setting learning pathways and ecosystems, attending to such differences in orientation can help stakeholders involved in those efforts understand both what kind of roles informal digital learning organizations might play, and whether alignment of values among stakeholders exists. The framework may also provide tools for both reflection by educational organizations about the kinds of futures they want to support or by researchers interested in analyzing the commitments of learning environments they study or design.

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