Returning Power to the Rightful Owner: An Ongoing Case Study in Redesigning Research Towards Youth Appropriation of Expertise and Authority

Abstract
This paper describes a research collective and the ongoing collaboration with a youth internship in designing and redefining data journalism and science infographic design activities for classrooms that resituate expertise and authority. Simultaneously, we are navigating the interplay between credentialed scholars and the youth in the recognition and assignment of expertise and authority in the production of knowledge. We describe the affordances of the involved activities, context, and people in the nascent undertaking of actively exploring and negotiating power in research towards equity and social justice.

Author Keywords
Youth Development; Reflective Research Practice; Participatory Action Research.

ACM Classification Keywords
H.5.m. Information interfaces and presentation: Miscellaneous.
Introduction
The power differential between university researchers and youth in K-12 schools is alarming; while youth serve as "raw data sources" that fuel academic careers and millions of dollars in research funding, they are largely dismissed as unqualified non-entities in the interpretation of this data and the ways in which it shapes the highly consequential practices of schooling in their lives. Exacerbated for marginalized youth, this silencing and objectification "has been particularly severe due to hierarchical power relations in schools and society, as well as the embedded cultural beliefs about children and adolescents [1]."

This paper examines an ongoing NSF-funded cyberlearning research project that is beginning to explicitly renegotiate this power differential, and the affordances and fledging practices of the project towards the necessary reflexivity and action. The project seeks to create an authentic context for young adults' engagement in artifact-oriented, technology-based science data journalism; this generally involves producing multi-part science news infographics, submitting them to an external editor for potential online publication, getting feedback, and working on revisions.

We seek to explore questions such as: What are the critical aspects of a sociotechnical system for engaging teens in data journalism using infographics that lead to appropriation of science and mathematical literacy? How can data journalism with infographics be effectively implemented in diverse learning environments, taking into account contextual factors? By inserting ourselves into these contexts and sociotechnical systems through our research agenda, we risk becoming complicit in the oppressive structures of knowledge production and power perpetrated on youth. It is a shared imperative of the collective that we actively design our research structure to resist this risk, and we look to codify this resistance with formal inclusion of youth on the research team, dissolving the hierarchy created by age and formal credentials.

One of the implementation contexts funded by the research proposal is an internship for high school students: Interns are paid employees of one of the partnered universities, embedded within the media labs of a communication department, tasked with both designing science infographics and serving as co-researchers on the multi-institution partnership. Participants are recruited through avenues serving traditionally marginalized groups (high poverty/high minority schools, LGBTQ youth groups, community organizations that work with underserved youth). Originally envisioned as a "lab" space to try out researcher-proposed curriculum iterations, the internship has emerged as a dynamic space for rich collaboration and power negotiation with youth.

Our research with youth has been influenced by participatory action research (PAR), where youth serve as co-researchers on projects in which they are the focus population. [4] We are exploring an alternative pathway to PAR goals of shared power and participation, through a consultant/content expert model. Situated in a more "humanizing context" than a formal school environment, we hope to avoid the risk of repercussions that can occur through school-based PAR which challenges power structures within schools [2].
Embracing Hybridity
One of the greatest assets in the project towards the reimagining of power and expertise with youth is its inherent fluidity, it naturally moves between disciplines and worlds on multiple fronts. This hybridity often affords a more elastic power orientation than many traditional school and academic research practices with youth, informally renegotiating questions of who is considered an expert, and the authority that expertise wields in the trajectory of classrooms, the internship, and the research project.

Infographic creation as hybrid
Infographic creation as proposed by the SLI project is hybrid endeavor that lives between data journalism, science, and visual design. Infographics are driven by youth interest and expertise, utilizing a hybrid set of tools that move students outside the classroom. Illustration, data analysis, communication, and research aggregation software bridge “real world” and classroom tools and practices. The audience for this work is also hybridized; beyond the classroom teacher, infographics that meet the standards of the strict editorial process are published online to a teen science news magazine with significant readership [3].

Hybridity of internship structure
As facilitators of the internship, we seek to integrate a partner-participant structure that fosters symmetry in power between facilitators and youth [4]. Guided by a positive youth development approach towards youth capacities and authority, we resist the traditional deficit approach of risk and delinquency avoidance [5]. The internship moves between the worlds of work, an afterschool science and design program, a supportive mentoring space, and a community of co-researchers.

Hybridity of research collective
The internship sits within a multi-institution research team that is comprised of both educational researchers and educational practitioners, working in both formal and informal educational contexts. The scholarly disciplines on the team include the learning sciences, computer and data science, chemistry, gesture, design, and youth development. Due to this interdisciplinary composition, and the integrative and emergent nature of infographics, the project is necessarily flexible in its concession of expertise to others. The project takes a design-based research approach, and the resulting flexibility and reflective iteration makes the project malleable and oriented towards a more shared governance of knowledge production.

Negotiating Expertise and Authority Toward Mutual Benefit
It is not only ethical but also highly practical and efficient to empower marginalized youth with authority on our research agenda, they “hold vital knowledge on experiences of schooling from which university-based researchers are largely distanced [1].”

Interns as expert participants
Youth in the internship have enacted the proposed infographic curriculum deeply and holistically, creatively adapting the proposed tools and infographic creation process to create innovative and compelling visual stories. These infographics expanded the research
teams’ understanding of the possibilities of the infographic process, from exploring tensions in cultural identity (Figure 1), original reporting and research (Figure 2), new and original forms of representation (Figure 3), and the incorporation of deep personal expertise (Figure 4).

Situating youth on the research team
Youth have served as informal yet highly generative members of the research team since the beginning of the project. Deepening contribution beyond their expert participation, they have served as ambassadors to youth insight. Interns have generated innovative forms of reflections on their work, served as opinionated consumers and prolific generators of curriculum, and generously shared cognitive processes and identity. (Figure 5)

Figure 3: Intern-created novel form of representation to highlight patterns in mortality and diagnosis across the life span.

Figure 4: Intricate digitally sketched representation of the evolution of dinosaurs to birds.

Figure 5. Illustration of a highly documented and richly narrated infographic process provided by a teen intern, it has been utilized extensively for both practical representation of the project and analysis.

As we seek to facilitate youth interns formally and explicitly moving from participant to research positioning, it has become clear that this endeavor is first and foremost a matter of adult reframing; they already meaningfully practice and contribute in this space. The hybridity of the project and existing practices create a promising infrastructure to support further divestment from oppressive research traditions; we aim to foster the youth appropriation of expertise and authority through the relinquishment of our own. As a collective, we must commit to an on-going and reflective mutual re-negotiation of role, benefit, power, and possibility.

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References


