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Social Design Experiments: Toward Equity by Design

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In this article, we advance an approach to design research that is organized around a commitment to transforming the educational and social circumstances of members of non-dominant communities as a means of promoting social equity and learning. We refer to this approach as social design experimentation. The goals of social design experiments include the traditional aim of design experiments to create theoretically grounded and practical educational interventions, the social agenda of ameliorating and redressing historical injustices, and the development of theories focused on the organization of equitable learning opportunities. To illustrate how we use social design methodology, we present two examples that strategically reorganized the sociohistorical practices of communities to expand learning as a key goal. We conclude with a discussion of the opportunities this approach creates for learning scientists to form effective research partnerships with community members, as well as the responsibilities it entails for creating a more just society.

It seems to me that American researchers are constantly seeking to explain how the child came to be what he is; we in the USSR are striving to discover not how the child came to be what he is, but how he can become what he not yet is.—A. N. Leontiev (cited in Cole, 1979, p. 151)

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In this article, we advance an approach to design research that is organized around a commitment to transforming the educational and social circumstances of members of nondominant communities as a means of promoting social equity and learning. We refer to this approach as *social design experimentation* (Gutiérrez, 2008; 2016). This methodology developed over three decades in response to systems of education and learning that were failing immigrant youth, dual language learners, and youth from underresourced schools and communities (Gutiérrez, Hunter, & Arzubiaga, 2009).

Social design methodology combines traditions of design-based research (Design-Based Research Collective, 2003) and democratizing forms of inquiry that seek to make the design experimentation process a coconstruction between different institutional stakeholders (Cole & The Distributed Literacy Consortium, 2006). Social design research shares important theoretical and methodological features and aims with sociocultural approaches to design, including formative interventions (Bronfenbrenner, 1979; Engeström, 2011) and ecologically valid experimentation (Cole, Hood, & McDermott, 1982; Scribner & Cole, 1981). Social design research also complements the context-sensitive, problem-focused, and iterative approach of design research (Brown, 1992; Sandoval & Bell, 2004) and is compatible with the goals of the design-based research community as detailed by Collins, Joseph, and Bielaczyc (2004), Cobb, Confrey, diSessa, Lehrer, and Schauble (2003), and Anderson and Shattuck (2012). Design research, they explained, addresses several issues central to the study of learning and instruction, including the following:

1. The need to develop innovative approaches for educational improvement
2. The need to address theoretical questions about the nature of learning in context
3. The need to study learning in the real world rather than the laboratory
4. The need to go beyond narrow measures of learning and understand how complex learning ecologies support learning

Although fully in accordance with these ideas, what sets social design experimentation apart as an approach is that it seeks a design process that strives to be a part of the process of fundamental social transformation. Traditional design-based research sets the aim of developing new visions, theories, and technologies for teaching and learning that might transform existing institutions, but they generally work inside existing institutions, engineering their own environments to see what is possible but not taking as their purview the work of transforming institutions. From a social design experiment perspective, working to transform social institutions and their relations is a primary target of design because only such changes can achieve the equity goals of the research. In social design experiments, social transformation is sought by creating a significant reorganization of systems of activity in which participants becoming designers of their own futures is an essential aim. In other words, a desired outcome of these interventions is the development of conscious,

meaning more intentional, *historical actors* (Espinoza, 2003) who can become designers of their own futures (Gutiérrez, 2008). Here the transformational process of becoming a historical actor involves developing a sense of one's own identity in the broad context of time, including how particular cultural practices came into being and how they have enabled and constrained possibilities for learning, and how these understandings inform future-oriented practices. The coordination of past, present, and future-oriented actions and identities sets the conditions for new forms of agency central to realizing possible futures.

The development of a historicized self is a particular kind of becoming that develops alongside a person's capacity to use new conceptual tools to interpret his or her experiences as produced through lived history (Holland, Lachicotte, Skinner, & Cain, 1998). As Gutiérrez (2008) argued, this perspective on identity is particularly relevant for coming to understand how one came to be a member of a historically marginalized community. For example, children of Mexican migrant farmworkers whose families come to the United States seeking employment and opportunity may not fully grasp the reasons why political, social, and historical factors limit their access to postsecondary education. Rather than focusing on their personal or group characteristics as the root cause of this problem, historicizing the collective experience of these migrant students can contextualize inequity in a more empowering way. Practically speaking, what this might mean is that in an intentionally designed educational program, migrant students can study the effects of social, political, health, linguistic, and educational disparities that have produced their community's experiences while also gaining valued academic skills for going to college (Gutiérrez, 2008; Núñez & Gildersleeve, 2014). Developing facility with methods of historical and critical analysis to engage in sense making regarding problems and inequities that have persistently plagued their community can enable the migrant students to develop new perspectives on the "why" and "how" of their community's marginalization. Furthermore, using new analytic tools to imagine and engage successfully in new futures, such as becoming school and community leaders and going to college, is an example of consequential forms of learning for members of nondominant communities (see Sannino & Engeström, this issue, for discussion of the related concept of transformative agency). In social design experiments, transformative learning opportunities such as these are a key step in achieving the overall equity goals of the research.

The goals of social design experiments, then, include the more traditional aim of design experiments to create theoretically grounded and practical educational interventions, the social agenda of ameliorating and redressing historical injustices and inequities, and the development of theories focused on the organization of equitable learning opportunities. The injustices toward which social design experiments are focused are those that are structural, systemic, and experienced as unjust by nondominant communities. We, along with a growing number of scholars in the learning sciences, argue that the design of learning environments and issues of social justice need to be considered together in order to make central the realities of peoples' lives

because the possibilities of learning and development are deeply situated in unevenly developed historical, spatial, and social circumstances (Jurow & Shea, 2015).

In addition, social design experiments build on the different forms of knowledge and expertise that people develop across the multiple contexts of their lives, recognizing that even in the face of oppression, nondominant groups have many resources for being resilient (see González, Moll, & Amanti, 2005, for their related discussion of funds of knowledge). The knowledge and expertise that are found in communities can serve as important resources for promoting change in conceptualizing problems and their solutions. Historically developed practices of community organizing and activism, social networking, and skills in health and healing can, for instance, be leveraged for the benefit of improving access to valued health, economic, and educational opportunities (Jurow, Teeters, Shea, & Van Steenis, 2016). By building on community practices, the solutions and the learning that emerge through social design experiments have a greater likelihood of achieving sustainability, meaning, and impact. Of significance is that social design experiments' explicit focus on disrupting educational, structural, and historical inequities through the design of transformative learning activity provides openings for learning, a context of critique for resisting and challenging the conditions that create and sustain inequities, and a space for generating their possible solutions.

With this perspective on equity-oriented design research in mind, we ask the following: How can researchers organize design interventions that intentionally leverage the diverse forms of expertise of nondominant communities so as to create the possibility of more consequential learning opportunities for them? Social design experiments offer one kind of answer. The designs at the center of these experiments strategically link practices that are valued differentially in society and have developed along different historical pathways in order to position participants to think about themselves, their circumstances, and their future actions in ways that are deeply contextualized.

To illustrate how we use social design methodology, we present two examples that strategically reorganize the sociohistorical practices of communities to expand learning as a key goal. We conclude with a discussion of the opportunities this approach creates for learning scientists to form effective research partnerships with community members as well as the responsibilities it entails for creating a more just society.

PRACTICES AND PRINCIPLES UNDERLYING SOCIAL DESIGN EXPERIMENTS

In this article, we draw attention to two key social design principles, equity and historicity, that work in mutually reinforcing ways to design for consequential learning and transformations in ecologies that have the potential for social change. Engaging in social design experiments requires the meaningful involvement of partners and

communities in key aspects of the iterative research design and implementation process. Akin to participatory design research approaches (e.g., Blomberg, Giacomini, Mosher, & Swenton-Wall, 1993), stakeholders collaborate in joint learning activity to identify and refine the goals of the intervention and make visible the historical dimensions of a community's practices. This approach requires a shift from viewing schools, communities, and other institutions as sites of study, as places in which empirical work is conducted, to viewing them as dynamic contexts for study that include partners who have agency for shifting their educational and life circumstances (Barron & Bell, 2015; Vossoughi & Gutiérrez, 2014). Ongoing attention to shifting issues of concern, goals, and resources available in a partnership facilitates the aim of social design experiments to effect broad social change through the responsive development of "small scale instantiations or realizations of a possible future" (Gutiérrez, 2005).

Equity in Social Design Experiments

Increasing economic and social stratification has heightened existing social inequities. Attempts to address inequities across institutional settings need to attend to the distribution of opportunities, resources, existing repertoires of practices, and the social supports needed to address the underlying historical economic, social, and educational structuring of inequity such as school tracking.

In social design work, equity and learning are brought together in designing for consequential learning and transformational change. The view of equity that underlies social design experimentation necessarily focuses on challenging and transforming inequitable social systems, organizing pathways for expansive learning and identity development, and working with community partners to identify the most pressing concerns and needs of nondominant communities. Social design experiments' focus on equity addresses several important goals involving change across multiples scales, from institutions and the practices that sustain inequity to transformation in individuals' agency and the kinds of knowledge that are valued and leveraged across spaces. From this perspective, designing for equity requires empirical study.

We draw on one example of equity operating as a design principle in our work partnering with schools to improve learning opportunities for dual language learners (Gutiérrez, 2003). In this design work, we identified a set of indices as part of operationalizing an equity framework. These indicators were situated in the specific context of a high school trying to reorganize into small learning communities but having difficulty both addressing the language needs of dual language learners and distributing these students across the new learning contexts in ways that accounted for their significant diversity and need for varying forms of support. Opportunity to learn for this student population involved ongoing monitoring of the following: (a) the degree of separation dual language learners experienced academically and socially; (b) their rates of school mobility; (c) access to courses required for college admission whose practices were organized around meaningful learning and participation; (d)

access to credentialed, experienced, and well-prepared teachers; (e) ongoing opportunity to develop dynamic and multiple learning and career pathways; (f) opportunity to use their language repertoires to learn and make meaning; and (g) opportunity to appropriate a robust set of college-going practices. In general, in this work we were interested in whether equity had been part of the conceptualization of the reform, including what role appropriate stakeholders had in the conceptualization and implementation process. We were also interested in documenting and tracing issues of equity from multiple vantage points, from inception to implementation to outcome.

Foregrounding equity in design, as illustrated in this example, can bring ongoing attention to and monitor the degree of well-being and resilience of individuals, communities, and partnerships in changing activity systems, as well as the functioning of the activity system itself. Like the miner's canary (Guinier & Torres, 2002) that provided early detection of the presence of poisonous gases in the mineshaft, a robust equity design principle as in the dual language learner example could help detect policies, practices, and interventions that fall short of their promise and fail members of nondominant communities and the systems of which they are a part. So while the miner's canary is a gauge of the vitality and resilience of the larger activity system, it should serve as an early warning indicator as well as ongoing measure of the intervention/design's positive, negative, or unintended effects on nondominant communities. This calls for a view of equity that is congruent with dynamic notions of culture, high expectations for achievement, rich and rigorous learning practices, and respectful learning that aims for cultural amplification (Cole & Griffin, 1980) and educational dignity (Espinoza, 2015; Espinoza & Vossoughi, 2014).

It is important to note that equity is both ideal and pragmatic in its conceptualization, as social design experiments focus on pressing problems of practice and the realization of a learning and social change agenda. This notion of equity draws inspiration from legal scholarship, notably the language of the Warren Court's unanimous ruling in *Brown v. Board* (1954). In their ruling, the Court advanced a dynamic notion of equity—one that had pragmatic quality, with a push toward practical solutions, honesty, and fairness¹:

Where there is injustice, we should correct it; where there is poverty, we should eliminate it; where there is corruption, we should stamp it out; where there is violence we should punish it; where there is neglect, we should provide care; where there is war, we should restore peace; and wherever corrections are achieved we should add them permanently to our storehouse of treasures. (Supreme Court Justice Earl Warren as cited in Newton, 2006, pp. 516–517)

¹We thank Manuel Espinoza for this example.

Historicity in Social Design Experiments

Of consequence to individuals in social design experiments is that becoming historical actors involves understanding oneself and one's cultural community in relation to their respective histories. From this perspective, privileging history involves attending to (a) the origins of current inequities in question; (b) the local and global conditions for inequity that were created and sustained through the use of ideational, social, and material tools; (c) an understanding that the tensions, constraints, and possibilities for alignment within and across activity systems should be understood against their own histories; and (d) an understanding of the history of people's participation in practices as well as the stories that give meaning to their lives. In line with Holland, Lachicotte, Skinner, and Cain's (1998) argument in regard to the production of learner agency, the horizons of meaning that take shape in historical time have the potential to open up new futures for people and their collective action. This is different from understanding history as an unfolding sequence of events; it involves studying how people make sense of their lives in dialogue with history as embodied in conceptual, material, and ideational tools as shaped by historical circumstances (see Nasir, 2011; Niesz & Krishnamurty, 2014, as examples).

Urrieta (2007) captured well the notion of becoming a historicized self in his study of how Mexican American educators came to see themselves as Chicano/a activists. Through life history interviews, he documented the forms of participation that contributed to a shift in how the educators viewed themselves, their community's history, and their possible futures. Activities including university coursework in ethnic studies, work in ethnic student organizations, and participation in programs designed for minority students helped the future activists to understand themselves as members of an oppressed and racialized group. These activities expanded their past views of themselves and engaged them in the "Chicano/a practice of decolonizing the mind" (p. 130), which opened a new direction for how they could participate in the world.

For us as researchers and for participants with whom we collaborate, understanding the world as it was, as well as how the past is indexed in the present, helps us develop and engage in newly imagined futures. This attention to history in the present makes possible new arrangements for learning that extend the resources and understandings of the past into the future. Michael Cole (1996) described the "cultural mechanism that brings 'the end into the beginning'" (p. 183) of learning as prolepsis.

HISTORICIZING DESIGN: SYNCRETIC APPROACHES TO EQUITABLE AND CONSEQUENTIAL LEARNING

A key innovation of social design experiments is how they organize interventions that bring together deep understanding of the cultural and historical practices of nondominant communities and the practices of institutions that have traditionally not

served these communities well. Social design experiments do not aim merely to make contact between the practices of nondominant communities and institutions (e.g., schools). Rather, they are organized to connect and reorganize practices so as to engender new forms of knowledge and expertise that embody characteristics of the best of both sets of practices, albeit in new forms. As a result, the new, recombined practices can open access for members of nondominant communities to these institutions and their privileges as well as to valued community activity oriented toward social change. At the same time, it is critical to note, the new practices are designed to transform the institution so that it can embrace multiple ways of knowing, acting, and valuing.

The approach that we take to creating designs that bring together differently valued practices and different histories of development draws inspiration from Vygotsky's (1986) insights into concept development. In particular, his writing, along with contemporary scholarship in this arena (e.g., Saxe, de Kirby, Kang, Le, & Schneider, 2015) about the relation between everyday (spontaneous) and scientific (institutional) concepts, mirrors our discussion of how practices can grow into each other and mutually inform and transform the other. We propose that rather than viewing everyday and scientific concepts in a hierarchical relation (i.e., one is inherently superior to the other), it is more productive to view them as each having value and purpose specific to the activity systems within which they have developed.

Understanding more about the relation between everyday knowledge and scientific knowledge is of particular theoretical interest to us as well as to the learning sciences. This interest in moving "everyday life into the school" (Scribner & Cole, 1973, p. 558) has a long tradition in neo-Vygotskian approaches to intervening in educational activities. This theoretical orientation and educational and social goal inspired the design of educational settings that sought to bring together everyday and scientific practices in ways that placed them on a more level playing field, that is, without reproducing hierarchical inequitable relations. Furthermore, in historicizing both the everyday and institutional forms of language and literacy, for example, and finding shared aspects in each, new genres and texts that had salience in the academy and in sociocultural arenas could be developed.

It is in this way that the concept of *syncretism* informs our approach to design (Duranti & Ochs, 1997; Hill, 2003). As Gutiérrez (2014) explained, the concept of syncretism aims at "the attempted reconciliation or union of different or opposing principles, practices, or parries, as in philosophy or religion" (p. 49). Syncretic approaches to learning were first designed to support the development of transformative forms of literacy for youth from migrant farmworker backgrounds (Gutiérrez, 2008). The object of this approach was the development of what was termed *sociocritical literacies*—literacies that developed through their attention to the history of contradictions and possibilities in institutions of schooling, their practices, and those existing in and among texts lived and studied. One enduring contradiction was between the English-only language

practices in their school systems and the students' need and right to leverage their full linguistic toolkits in learning and meaningful activity. This tension was evident even in our own classrooms, as we had dual goals of privileging students' linguistic and sociocultural histories and supporting students' development of college-going literacies (Gildersleeve, 2010). This tension was made visible in the classroom and became the object of careful analysis, both historically and locally—a process that involved reading difficult texts such as Gloria Anzaldúa's (1987) "How to Tame a Wild Tongue" to extend and contextualize their examination. In this way, these students were involved in complex reading and rich and bilingual literacy practices, as well as opportunities to understand more fully the role that language ideologies played in educational and social opportunity, for example.

As we detail more fully later in this article, it is important to note that our syncretic approach to design is intentional about which everyday and formal practices we put in relation to each other to meet our goal of organizing viable pathways for nondominant communities to participate in and create new forms of social action. However, in light of historical power relations experienced by communities with whom we work, the integrity of everyday practices is preserved and foregrounded so as to maintain the value and history of the everyday genre vis-à-vis the dominant form (Gutiérrez, 2014). In this way, syncretic approaches can offer a challenge to the reproduction of dominant views of knowledge in research focused on marginalized communities. Moreover, because designed interventions are grounded in community practices, they have a greater likelihood of being embraced, sustained, and leveraged.

Designs that link the everyday experiences of nondominant communities to scientific or institutional practices need to anticipate and organize viable pathways by which people and concepts can be made to move (Gutiérrez, 2014). It is on these uncharted pathways that people who have gained powerful insight into their experiences of marginalization, who have in other words become historical actors driven to make change, will need to travel. The work of social design research requires attending to organizing this pathway with participants as well as stimulating the process of transformation of self.

USING SYNCRETIC APPROACHES IN SOCIAL DESIGN EXPERIMENTS

In this section, we present two examples of social design experiments that highlight the approach's key principles as well as emphasize the diversity of social design experiments in terms of their content focus, participants, and aims. Organized around views of learning understood as the "organization for possible futures" (Gutiérrez, 2008, p. 154), each example elaborates how attention to

historicity helps researchers understand how valued cultural models and practices of students' communities can be merged with longstanding academic conventions, using old and new technologies to achieve new ends.

The first social design experiment, from Gutiérrez's longstanding Migrant Student Leadership Institute (MSLI), is used to illustrate the model of designing syncretic texts. The second case, from Jurow's Learning in the Food Movement (LFM) project, demonstrates the development of a syncretic technological tool for use in community activism. Both projects are fundamentally concerned with equity-oriented approaches to making learning consequential.

Syncretic Practices in MSLI

To ground the theoretical concepts presented previously, we share an example of a designed learning ecology for high school students from migrant farmworker backgrounds. (This discussion presents ideas, including syncretic learning and the genesis of the concept of historical actor, elaborated in greater detail in Gutiérrez, 2008, 2014.) The key design goal of the University of California, Los Angeles (UCLA), MSLI was to reframe education so that students could begin to reconceive their identities as learners and historical actors in the academy and beyond. This identity work is particularly important to students from migrant farmworker backgrounds—arguably among the most vulnerable student populations—who on all measures experience the most substandard and often deplorable living, working, health, and educational conditions (Centers for Disease Control and Prevention, 2004).

This vulnerability was certainly the case for 100 youth who came yearly to the UCLA campus from migrant regions across the state of California to participate in MSLI. Although there were important variations among these youth in terms of their history of experience with U.S. schools, history of experience with English and Spanish, documentation status, and success in school, MSLI students shared experiences of what it means to be a migrant farmworker in the United States and to live marginally, economically, educationally, and sociopolitically.

This collective experience was the cornerstone of the intensive month-long residential summer program. This diverse group of sophomores, juniors, and seniors engaged in a rich set of activities, all of which were designed to transform their educational experience and trajectories by changing their relationship to learning. On weekdays, the daily program began with a 6 a.m. wakeup call and ended late in the evening. It included tutoring, study time, and residential life and college-going preparation activities as these high school students participated in rigorous study for college-level credit and had the opportunity to create new pathways and networks of learning.

Developed over the course of 15 years of programming and previous design work, the MSLI social design experiment was a response to standard educational

interventions based on the assumption that the students' lack of success in schools was caused by the deficient home life, culture, and everyday life practices of youth from nondominant communities. To counter this deficit ideology, our various design projects with the MSLI and other youth focused on remediating a history of inferior education by reframing what counts as education generally and literacy specifically. We saw it as our task to design new curricula that created new linguistic and cognitive demands through historicizing students' educational experiences in order to liberate education's transformative potential.

The design of MSLI used and transformed the ecology of the UCLA campus, transforming space, place, texts, and tools to serve new instructional ends in the program. Activities ranged from instruction in classrooms that brought together social science, science, technology, engineering, and mathematics topics, and literacy, to comprehension circles organized around the reading of difficult texts, to individual and small-group tutorials, gender circles, recreational activity, field trips, and *Teatro del Oprimido* (Theatre of the Oppressed)²; UCLA was transformed into reinvented spaces of productive learning activity. The standard idea of learning as a process limited to the formal classroom was countered in every space of interaction. For example, the grassy areas that normally served as pathways for students moving from class to class or dorms to classes were regularly transformed into a public theater where migrant parents and the residential staff, facilitated by institute instructors, led the students in a series of activities that constituted *Teatro del Oprimido*.

The collective public-solving activity and enactment of key social issues engaged participants in the process of "social dreaming" (Gutiérrez, 2008, p. 157) in which a new form of learning could support a collective imaginary of a more just and hopeful world and a newly imagined educational and sociopolitical future (Espinoza, 2008). *Teatro* also became a rich site for building problem-solving narratives, an important genre for both everyday and more formal learning. These embodied understandings of pressing social problems were later examined in formal texts, personal stories, and historical and current accounts and elaborated in students' own classroom writing—activities that set the groundwork for a form of syncretic thinking involving a synthesis of contemporary cultural life with history, the everyday with the more formal.

MSLI, then, was organized around a new pedagogical imagination about how learning could be made consequential when oriented toward a collectively imagined humanist form of learning and action. Mediated by a historicizing curriculum and critical social scientific thought, youth engaged in a range of learning activities that set the groundwork for sustained engagement in cognitive work and their development as historical actors who could begin to develop a view of themselves as social actors and learners. Youth and adults engaged in discussions about people, texts, events, and

²*Teatro del Oprimido* was developed by Augusto Boal (1979).

practices that were historically situated and understood through a social analytical lens. Our pedagogical design reorganized everyday and scientific concepts experienced by, or that were culturally resonant with, the migrant students' own experiences in order to leverage youths' existing repertoires of knowledge and skills to encourage learning that could have utility across tasks, purposes, disciplinary boundaries, learning environments, and social purposes (Espinoza, 2009; Gutiérrez, 2008; Vossoughi, 2014).

Developing Historical Actors. The rich assemblage of practices, ranging from formal reading and writing activities in the classroom to their enactment in *teatro*, all had the same syncretic character; they always involved the combination of two ways of thinking and doing, historicizing and examining texts and topics taken from everyday experience in ways that simultaneously were more aligned with the academic focus of the school.

As an example, curricular practices were designed to develop a sociocritical literacy as well as to develop historicized thinking about one's social situation and academic texts (Espinoza, 2009; Vossoughi, 2014). In the following passage, MSLI instructor Manuel Espinoza is explaining to students what it means to think of oneself as a historical actor as they begin to write accounts of their experiences as youth from migrant farmworker backgrounds:

So if you have something in class that you were talking about or in the gender circles, right? ... or at feedback at the tutoring sessions ... then bring it in bring it in, use it—Everything that the program is. The curriculum isn't only in your little- in your little notebooks- the curriculum is in everything that you felt and experienced and understood in whatever way from the program, okay? Raise your hand if you're a historical actor. ... [writing one's history] is an opportunity to think about yourself as a historical actor/towards historical action. (Gutiérrez, 2008, pp. 154–155)

Students raised their hands in response to Manuel's question, affirming their stance as historical actors; in the next exchange, students collectively lifted their pencils high in the air, as Manuel asked them to use their historicized writings as a tool to rewrite their own story.

Several different kinds of texts—from valued cultural models to a range of difficult social science texts—were introduced to historicize the learning process. Students read and wrote about C. Wright Mills's (1959/1967) *The Sociological Imagination*—also a central metaphor and design principle in MSLI—as well as Eduardo Galeano's (1973) *Open Veins of Latin America* and Sonia Nazario's (2002) *Enrique's Journey* to support the processes of seeing themselves as historical actors as well as social and educational change agents. For example, students read *Enrique's Journey*, a chronicle of an immigrant Central American

youth's quest to reunite with his mother in the United States. Enrique's immigration story mirrored the experiences of many MSLI students who had traveled and crossed the border with strangers as young children; it chronicled the tragedy of forced separation and eventual unification of families seeking employment and more just lives in the United States.

Enrique's Journey served as an important tool in creating a syncretic learning activity by helping MSLI students identify with and understand Mills's text and his notion of the sociological imagination as the ability to understand oneself in relation to larger social and historical processes. Central to becoming historical actors, the sociological imagination allows one to understand that one's personal problems are social and historical in origin. As Mills (1959/1967) wrote, "The sociological imagination enables us to grasp history and biography and the relations between the two within society. That is its task and its promise" (p. 6). In MSLI, instructors emphasized that the sociological imagination is practiced in part by approaching individual troubles in terms of broader social issues (S. Vossoughi, personal communication, March 2, 2016). Combining Mills's social analytical tools with Galeano's history of Latin America and Enrique's personal immigration story set the groundwork for a focus on larger social scientific ideas, especially Mills's sense of the promise of social science.

The Process of Creating Syncretic Texts. We focus on the use and design of syncretic texts in the MSLI social design experiment to illustrate how equity and historicity can be productively combined with informal and more formal learning processes to develop robust forms of learning. This learning was particularly significant for the youth who had had little previous experience with reading and writing in the academy, previous experience with formal social analysis, or opportunity to develop and use historical knowledge of their communities toward consequential ends. As schematized in [Figure 1](#), the curricular model involved the reorganization and fusion of the everyday and school-based genres; historicized understandings of these forms, with attention to their schemas and structures; and their functions in their respective settings.

The process diagramed in [Figure 1](#) represents how we developed a key synthesizing activity in MSLI, the syncretic *testimonio*. *Testimonios* are narrative accounts situated in the subjective particularity and sociocultural and historical reality in which people coconstruct their understanding of the social world and of themselves (Jaramillo, 2007). We designed this syncretic form, a remix of critical autobiography and traditional *testimonio* combined with genres more familiar in formal school settings (C. Cruz, personal communication, November 24, 2007). [Figure 1](#) is intended to diagram the intertwined development of two forms of writing, historicized and culturally resonant writing, and a more robust academic text in its syncretic form. It also illustrates in a simplified and schematic form

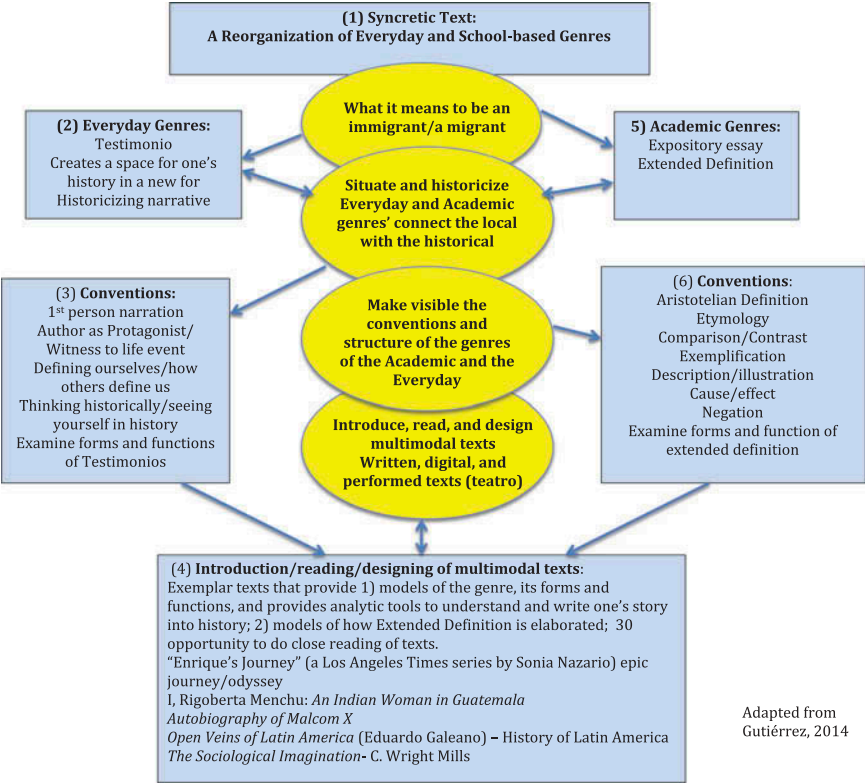


FIGURE 1 The process of creating syncretic texts. Adapted from Gutiérrez (2014).

how creating syncretic texts involved formal study of strategically selected everyday genres, their conventions, and history of use and function in relevant and valued practices.

The diagram details in far more mechanical and straightforward ways than desired the dynamic and iterative processes of producing syncretic texts. The processes have been numbered in Figure 1 to represent how the process is organized. As the diagram shows, there is formal study of both everyday and school-based texts, a remixing of kinds of texts, with varying forms, functions, and purposes, all in the service of writing the culminating syncretic text on the topic “What it means to be a migrant/an immigrant in the United States.” The center column (i.e., the ovals) indicates the remixing or the reorganization of everyday and school-based practices that is necessary to the production of the syncretic text. The middle column is flanked by guides for the study of a valued cultural form, *testimonio* (left column), and an academic genre, *extended*

definition (right column). The two genres share sufficient complementary features to pair the two in order to create the critical syncretic *testimonio* about what it means to be a migrant/an immigrant in the United States.

As illustrated in Figure 1, constructing the everyday text involved identifying an oral or written literacy practice that was familiar and valued in the students' cultural communities. In this case, we used the *testimonio* and its conventions (see 2 and 3 in Figure 1). This genre was then combined with an academic genre and conventions that could support the development of a new kind of text (see 5 and 6 in Figure 1). In this process, the valued cultural form was made the object of social scientific analysis, as we engaged students in the formal study of its history, its form and function, and its conventions. Consequently, the formal study of everyday genres provided a context for students to study familiar and culturally connected texts and ideas mediating their writing through the new skill set they were acquiring. The result was the production of academic texts that were written in ways that resonated not only in the formal educational system but personally, sociopolitically, and culturally as well.

As previously discussed, students read texts that served as exemplary models of the genre—texts that provided social analytical tools for making sense of their everyday lives in schools, in the migrant community, and in the larger society (e.g., Freire, 1970; Menchu, 1983; Mills, 1959/1967). The original everyday oral form of *testimonio* and its later written forms became legitimate objects of study. Drawing on their new understandings of the *testimonio* and its conventions, uses, and models, students produced oral and written texts about what it meant to be a migrant and an immigrant—historicized and situated accounts of their lives that also made visible new pathways, openings, and ways to solve social and educational problems. These texts were then further revised and elaborated through the study and production of more formal texts and through participation in the variety of activities that made up MSLI, all of which shared the same pressing topics in their broad range of activities.

As shown in Figure 1, the extended definition served as the mirrored academic genre, as writing a *testimonio* about what it meant to be a migrant/immigrant involved producing a form of extended definition (see 5 in Figure 1). Students engaged in formal study of the extended definition and its conventions, history, form and function so that they could understand this genre and use its conventions to produce their syncretic writing (see 6 in Figure 1). The same texts that were read and used to historicize and analyze the everyday were then reread for analysis of texts structures, literary conventions, and meanings of texts (see 4 in Figure 1). By drawing on both the conventions of the *testimonio*—a genre that gave meaning to their lives as migrants—and the conventions of the academic genres, students produced more meaningful and elaborated syncretic texts that had more authority and precision; in these productions, they drew on a range of texts they read, local and historical evidence, and social analysis and examined personal experience for the basis of their claims. We found that the hybridity of

the syncretic texts increased the possibility that these forms of writing could become valued genres in the academy as well as valued by youth themselves and their peer and local communities.

Writing as Social Scientists. Following Mills, MSI was invested in the promise of social science and its analytical tools. Literacy and social science were regularly brought together in learning activity. Our analysis of videos of teaching and learning activities, students' written and oral artifacts, instructional team meetings, and curricular development across a decade of programming identified significant shifts in students' learning in terms of both their reading of difficult texts and the writing they produced in response to those texts (Vossoughi, 2014). To analyze our data, we organized curricular and student data and analyses by instructional team (termed *familia*) for each year of the program. Thus, we could examine students' work across time and learning activity within their respective program years and across years. One result of our analyses was that students were able to use these new tools in classroom work as well as to problem-solve and make sense of their own social and educational circumstances and possibilities in other settings. Sets of guiding questions were developed to support the reading of challenging texts, to help students enter texts that were difficult and unfamiliar.

For example, one such question asked students to write about Mills's definition of the sociological imagination, the relationship between personal and historical/social problems, as well as how to use his ideas to relate to personal and social problems. These young students—whose high schools were not providing opportunities to read rigorous texts or to use writing to learn and make sense of texts—wrote responses such as the following, illustrating their ability to provide extended definitions as they began the process of writing syncretic texts:

To imagine means to see the ways you want to improve and then visualizing it. For Mills, imagining means to see the world and think of how to make it better. Then take the visualization to use it as a goal to change History and take action. (GQSI_05.doc)³

To understand how the history of society and the individual interact, Mills defines sociological imagination as ordinary people connecting history making and how the individual takes part in it ... The relationship between the individual and history and society is interaction. GQSI_52.doc)

³GQSI_05 refers to the code given to student data, by type of assignment (Guiding Question [GQ]), the name of the reading (S), student course section number or *familia* as they were known (I), and the code given to each individual student (e.g., 05).

*Mills describe sobre las formas que la sociedad y la comunidad puede hacer para tener un mundo mejor. Tambien habla sobre las formas del petroleo y el Gas como podemos pagar tanto por un galon de gas si nosotros mismos estamos haciendo daño a la comunidad y a la sociedad. Y como las familias pobres deben mandar a sus hijos al militar para obtener el petroleo porque se usa para muchas cosas, por ejemplo, ropa, plastico, y materiales. El habla sobre el futuro que podemos tener mas mejor. (GQSI_18.doc)*⁴

Sociological imagination is to be aware of surroundings to eventually be aware of oneself. It seems like a person needs to pinpoint themselves in history. It seems that both go hand in hand; they affect the other. History is eventually made by individuals. Individuals also need to see how history affects them. (GQSI_42.doc)

These written statements illustrate how emerging mastery of the extended definition genre provided evidence of simultaneously emerging understandings of what it meant to be a historical actor—a central goal in the development of syncretic texts.

Expansive forms of literacy learning, such as those manifested in these texts, are designed to address the disconnect youth experience as they move across the multiple contexts of their lives. This form of syncretic practice, grounded in our Vygotskian-inspired understanding of the process of concept formation and the dialectic relationship between everyday and scientific practices, can give rise to new practices and new spaces—what Gutiérrez (2008) called “third spaces.” The production of syncretic texts as part of MSLI served as generative sites where youth could organize knowledge for future educational and social action, gather energy and support to negotiate the demands of the academy through problem-solving activity, and develop new tools and practices that supported engagement in productive and future-oriented strategies. These texts were written and rewritten across the month-long program, with students sharing new thoughts and drafts daily, incorporating feedback, and trying on new language and analytical tools to tell their story. They were clearly stretching beyond their current level of competence to read and write in new ways, toward new purposes.

The representative texts (see Figure 2) are drawn from early versions of what would eventually become students’ *testimonios*. (Gutiérrez, 2008, has written elsewhere about the significant shifts in students’ writing as evidenced by the quality of their *testimonios*; their ability to leverage high-level texts, social theory, and writing conventions; as well as their new identities as historical actors.) The

⁴Mills describes the ways that society and the community can do to have a better world. He also talks about the forms of oil and gas and how we can pay so much for a gallon of gas ourselves as we are doing harm to the community and society. And how poor families should send their children to the military to get oil because it is used for many things, such as clothing, plastics, and materials. He talks how we can have a much better future.

In order to look into our future, we must first look at our past. When people look at me they think I am just the daughter of people who migrated from Mexico and now they work in the fields. People need to look at the bigger picture, why my parents came to this country, and how that has affected me personally.

A year ago I could not have put on paper the feelings that I had. I was coming back from the Migrant Student Leadership Institute Second Session, and at that point my life was not the same. Those hours of crying did not only symbolize suffering and emotion, but also symbolized the beginning of a new perspective. It symbolized the death of my old ideas and the construction of new ones. My life as a migrant student was marked from inevitably marked from that day. During my experience in the MSI I

Migrant Student
An extended definition isn't just a definition from the dictionary like this one:
Migrant - A person who moves from place to place to get work. The extended definition of a Migrant is the following: A person who has problems in its country and has to leave. These problems could include repression, poverty, oppression, or lack of a good life. "In Latin America it also includes the oppression of small countries by their larger neighbors and within each country's frontiers, the exploitation by food and labor." (García 12). Most of the

FIGURE 2 Examples of migrant students' writing.

texts presented here were coded for students' attempts to use both the conventions of the extended definition and their historicized autobiography to write critical *testimonios*, their syncretic texts. In each of these writing samples there are references to developing a historicized and future-oriented view of their lives, a new kind of agency mediated by a range of tools, including their readings and writings.

Designing for syncretic texts required the iterative development of practices in which students could play with genres and language (English and/or Spanish, i.e., hybrid language practices), formulate new ideas and ways of reframing their lived stories, and incorporate critique and social theory as they appropriated the conventions of the formal and everyday genres.

To reiterate the goal and promise of this pedagogical approach, syncretic texts were designed to maintain the meaning and relevance of the everyday in the production of more formal texts; in this way, students' social and linguistic practices could serve as a resource in the development of powerful literacies (Crowther, Hamilton, & Tett, 2001)—practices that in our work surpassed instructional approaches students had experienced in their regular school contexts. We argue that these new literacy practices can be particularly consequential for youth from nondominant communities. Literacy learning should provide opportunities for expansive forms of learning that create a context for negotiating contradictions that youth experience in schools and in the larger society as well as finding hope and possibilities across social institutions. The reorganization of everyday and school-based literacies supported students' appropriation of academic forms of literacy while maintaining the value, history, and integrity of the everyday genre vis-à-vis the dominant form. This is especially important in light of historical power relations that shape learning opportunities for youth from nondominant communities. Syncretic approaches to literacy learning can serve as a context for possibility, ingenuity, the development of new dispositions, and the organization of new futures.

Equity by Design. Equity in the context of MSLI was both an ideational and pragmatic goal, as we discussed earlier. Equity involved a way of seeing, especially a way of seeing historically. For the researchers, it involved seeing ethnographically to attend to the mundane everyday practices of youth so that they could be leveraged toward new ends. It involved seeing ingenuity in students' practices and strategies for negotiating oppression, poverty, environmental racism, and the microaggressions they experienced in everyday life. As designers of these new learning ecologies, we were in constant design and redesign mode, attending to contradictions in the activity systems of which we (the instructional team and the students) were a part as well as finding points of alignment and possibility across

these systems. Our work was iterative, and we continually asked ourselves if our designed practices passed the standard for equality—equality for all participants in ways where they could see themselves learning and growing. Across the span of the social design experiment, we asked what new spaces, tools, and practices could be remediated and designed where youth could have dignity and take risks. Throughout these iterative processes, we were held accountable and also fell short in meeting the varying demands of the council of migrant parents and the directors of migrant programs across the state.

The discussion of *testimonio* and extended definition is advanced as a case of the formation of concepts that go beyond the binary notions of everyday and scientific as well as include a critical emphasis on the historicizing of concepts and engagement with their contradictions and possibilities. It is these key aspects of syncretic design that should be instructive from the case of literacy learning in MSLI, aspects we continue to explore in our next example from the LFM project.

Syncretic Practices in the LFM Project

Our next example highlights the syncretic approach to community advocacy that Jurow and colleagues have developed on the LFM project. The example, which focuses on the codesign of a software application to enhance community organizing activities, highlights how syncretic designs can create opportunities for bringing together codesigners' different forms of expertise in order to align practices and open up new pathways for learning. The syncretic approach described in this case was deeply informed by a historicized understanding of the circumstances shaping the lives of the residents living in a marginalized immigrant community, the historical and cultural strategies that residents used to effect change in their neighborhood, and the desires on the part of the stakeholders for new tools and strategies that could improve their situations.

The residents of South Elm,⁵ the urban neighborhood where the project is situated, face a number of challenges, including high rates of crime, drug abuse, and poverty. For decades, the neighborhood has suffered from poor physical and economic infrastructures that have not drawn the sustained attention of the city government. At the same time, the attraction of inexpensive rental homes and close proximity to the city's downtown has made the neighborhood an appealing location for immigrants from Latin America, East Africa, and Southeast Asia. Mexican residents make up the largest immigrant group in the neighborhood (80.7% of the population according to 2014 census data), and this is evident in the use of Spanish on storefronts as well as the social and political murals that decorate the sides of buildings.

⁵All proper names are pseudonyms.

One of the most significant issues that South Elm residents face is limited geographic access to a grocery store that sells fresh, affordable food. The consequences of this limitation include soaring rates of obesity, diabetes, and cardiovascular disease. Impact, a food justice nonprofit, developed programs in South Elm to achieve three interrelated aims: (a) increasing food access, (b) empowering residents, and (c) enhancing the economic vitality of the neighborhood. As part of Impact's backyard garden program, *promotoras*—Spanish-speaking Mexican residents hired to make connections between the nonprofit and the neighborhood—help families grow vegetable gardens and offer support related to health, nutrition, and other social services.

Promotoras in Historical Context. Impact's use of *promotoras* to grow gardens is an adaptation of the *promotoras de salud* (promoters of health) public health model that originated in Latin America, where it has been in use for more than four decades to connect marginalized communities with health resources (Idali Torres & Cernada, 2003). This model is the product of multiple syncretic iterations. We mention this background to highlight how the historical development of the *promotoras de salud* model has influenced and continues to influence its value for this community and how it is being used and adapted. After gaining independence from colonial rule, Latin American countries were presented with new challenges in the face of the colonial legacy. In the 1950s and 1960s, the poor populations of previously colonial states were not well served by Western health care systems (Magnussen, Ehiri, & Jolly, 2004). The *promotora* model emerged to address this need, combining valued community-based practices (e.g., serving as a trusted leader in the community) with valued public health goals (i.e., connecting residents with institutionalized health care). Initially, the model had limited success because of its appropriation of indigenous practices to promote a discourse of individual health and responsibility rather than one that considered the social and cultural dimensions of health care inequities (Daykin & Naidoo, 1995; Hester, 2014). As the model developed, it combined public health education with grassroots ideas about social justice from liberation theology (Freire, 1970) and social movements for literacy and land reform in Latin America.

In this further development of the model, peoples' lived experiences of oppression and their desire for social justice transformed the model of cultural brokering that was designed from the public health perspective. Since the addition of this social justice orientation, "*promotoras* have been key to the integrated development programs aimed at accomplishing the dual goal of public health and economic development in many parts of Latin America" (Torres & Cernada, 2003, p. 13). This latter approach to using *promotoras*, which strategically uses community knowledge and experiences to improve

present circumstances, deeply informs Impact's community-based model and the *promotoras'* views of their work (see also Israel, Schulz, Parker, & Becker, 1998). The Impact codirectors adapted the *promotoras de salud* model to address food insecurity in South Elm.

Since Impact initiated its garden program 6 years ago, its two directors, 10 *promotoras*, and approximately five office workers have helped nearly 400 residents to establish backyard vegetable gardens. This intervention has increased residents' access to healthy food and, particularly through the use of *promotoras*, has helped mobilize residents around issues of community concern. For instance, the *promotoras* have facilitated action plans related to the development of the city's first food cooperative, neighborhood safety and transportation, and the prevention of domestic violence.

The LFM research team was introduced to Impact through the city mayor's initiative focused on enhancing the local economy by focusing on the production and distribution of local foods. The mayor's team and Impact were interested in taking the *promotora* model to scale across the city; we were invited by Impact to work with them to articulate the *promotora* model and contribute to a *promotora* curriculum.

As part of ongoing ethnographic research on the *promotoras'* work, the LFM team has investigated the historical roots and contemporary uses of *promotora* models, shadowed the *promotoras* as they have visited residents and checked on their backyard gardens, and conducted interviews with the *promotoras*. In addition, researchers studied the organization of practices at Impact in order to understand how the *promotoras'* work was coordinated with its broader goals. Our team has been deeply involved with Impact in a variety of ways: through participating on the nonprofit's board, fundraising for the organization, and maintaining friendships that have been cultivated through engagement with the Impact community. The data sources we have collected over 3 years include video and audio records along with field notes and artifacts. It is important to note that many critical moments that have shaped the direction of our research have emerged in informal conversations that have allowed us to be privy to the most pressing concerns of this organization that is striving for social justice in contentious, politicized, gendered, classed, and racialized spaces. This type of ethnographic fieldwork, which the research team organized to understand what mattered to the participants and how changes might be taken up within the activity system, is key to using approaches to design that foreground the social and cultural organization of learning (Barab, Thomas, Dodge, Squire, Newell, 2004; Hall & Jurow, 2015).

The impetus to codesign a software application to facilitate the community advocacy work in South Elm developed from the research team's understanding of the challenges faced by the *promotoras* and the codirectors of the nonprofit. When we first began our research with Impact, these two groups were

responsible for different types of work at the organization: The *promotoras* worked directly with the residents and in their gardens, whereas the codirectors were focused primarily on organizing the office side of the work so as to support the garden designs and development, writing grants that could fund the nonprofit's agricultural innovations, and connecting with politicians and local community organizations to bolster their work in the city. This division of labor contributed to blind spots on the parts of both groups in regard to what each group was doing and tensions as to how the nonprofit could best move forward in the community.

Through our research with the *promotoras*, we learned that they desired greater responsibility in the organization and that they wanted their work to be more fully understood by the directors. The following quote from the lead *promotora* at a workshop (that we designed with the *promotoras*) to understand their work captures this sentiment. It also includes a call to the directors, whom we invited to attend this session, to be more involved in the community so that they could appreciate the extent of their needs:

A mi me gustaría mucho que Impact, o sea [names codirectors], hmmph, se involucren más con las necesidades de la comunidad. Que ellos aprenderán a conocer las necesidades más. No, no más de la alimentación porque en la comunidad hay necesidades al respecto de la salud respecto a la educación ... (I would like very much that Impact, namely, [names codirectors], hmmph, become more involved in the needs of the community. That they will learn to know the needs more. Not only about the nutrition because in the community there are needs with respect to health, with respect to education ...; transcript, May 6, 2013)

This comment captures a shared perspective that was voiced on multiple occasions by the *promotoras*, that the community's needs were not fully understood by the nonprofit directors. This was a significant moment because the *promotoras* felt that their sustained and responsive relationships with community members provided the foundation for their effectiveness as *promotoras*. The *promotoras*' ability to knock on the doors of strangers, be welcomed, and enter into backyards to grow vegetables that could sustain whole families was based in the trust and care they cultivated with residents.

This quality of the *promotoras*' work in South Elm was not captured in official data sources collected on the effectiveness of the *promotora* model. The evaluation methods that Impact had been using when we first began our research with them were focused on garden productivity (e.g., pounds of vegetables grown). The *promotoras* were the primary data collectors, but they were frustrated because they felt that they were being asked to collect information that was not capturing the fullness of their work. The *promotoras* wanted to be able to tell their own story and to have greater voice in shaping Impact's vision for the community. They were

eager to collaborate with the research team to have this opportunity and to gain the skills that could allow them to do this. From their perspective, these skills included learning and using English and gaining “business skills” (e.g., facility with the practices of accounting, Excel, PowerPoint) that they could use to do higher level management work (interview, October 8, 2013).

The data collection that Impact was conducting when we first began our partnership with them was completed by individual *promotoras* as they visited gardens (i.e., asking residents to complete paper surveys). This information was then manually inputted by one of the codirectors into Excel. This was a time- and labor-intensive activity for the small organization. As the number of Impact gardens increased in South Elm, the codirectors keenly felt the pressure to ensure that the *promotoras* were working effectively and that the gardens were growing well. As one of the directors shared, “Ten percent of families complain (e.g., about vegetables that were not growing well, *promotoras* who do not know how to address specific infestations or fix an irrigation timer) about 100 gardens and now with 300 gardens ...” the organization needed to develop a better system of training and evaluation (field note, May 9, 2014).

The directors’ incomplete picture of the *promotoras’* work practices and the need to develop better evaluation metrics for the program were closely linked. Without a complete understanding of the *promotoras’* layered activities in the community, it would be challenging to help them improve. This was consequential for the quality of service provided to the South Elm community, the *promotoras’* professional development as community organizers and gardeners, and the growth of the non-profit (Jurow et al., 2016).

The Design Process. Ongoing analysis of data sources motivated the design of a new tool that could improve Impact’s evaluation methods. Multiple sources inspired this proposal: the *promotoras’* desire for a more accurate representation of their work and how to improve it, the *promotoras’* interest in gaining a broader repertoire of professional skills, and the directors’ need to develop valid and useful evaluation metrics. Conversations with colleagues who had used information technologies in developing countries to document sustainable community development activities inspired the type of solution we proposed to address this multifaceted problem.

In dialogue with the codirectors, *promotoras*, and colleagues in our university’s College of Engineering, we decided to work together to design a software application that could (a) enable the nonprofit leadership and other staff to appreciate the *promotoras’* day-to-day work, (b) support the *promotoras* in developing technological and data analysis skills that could help them advance professionally, and (c) provide Impact with valuable data sources for documenting the effects of their programs on South Elm (field notes, March 5, 2015). In

regard to the design process, the *promotoras* and the Impact directors led the discussion of the content they wanted to collect via an application while the engineers worked to figure out the technical capabilities that would be necessary to meet these goals.

It is worth noting that the *promotoras* wanted information about the gardens to be carefully documented, but they also wanted the software application to be able to capture information about their interactions with residents (e.g., What physical and mental health issues or neighborhood safety concerns did residents convey in conversations with them?). *Promotoras* were deeply aware that their relationships of mutual trust and respect were foundational to the success of the Impact program, and they wanted this to be documented via (what we eventually named) the Promotora App. As researchers, we facilitated conversations among the design participants to draw out their varied desires for the tool. We also added our own perspectives by sharing analyses developed from our fieldwork about what kinds of technological features could be useful for the nonprofit. For example, we valued the idea that the *promotoras* should share information with one another, and not only the directors, so that their expertise could be cultivated and not only monitored.

As the design process took shape, the *promotoras* saw that not only could the Promotora App improve data collection, but their use of this new tool could allow them to develop new technological abilities. For instance, learning to create virtual forms to document and evaluate seasonally situated work practices, to upload and save files onto a networked server, and to analyze data trends regarding individual and group performance over time could open up new and higher paying job opportunities (at Impact and beyond). On a more practical level, the *promotoras* liked the idea of not having to carry paper surveys with them door to door, of designing tailored survey questions for different seasons, and of being able to take photos (e.g., of possible plots for a garden or vegetable infestations) that could be linked to narrative forms of information collected from individual gardens.

The syncretic approach to design that resulted in the Promotora App joined different practices that represented different forms of expertise and interests on the part of the participants involved in the design process. The first set of practices focused on Impact's *promotora* model and highlighted the expertise of the *promotoras*. These practices included skill with growing vegetables, cultural responsiveness, *personalismo* (understood as the valuing of warm and friendly, rather than formalized, relationships), and collective social action. The second set of practices was technology design for development; this was the realm of expertise of our university partners in engineering. The syncretic design emerged from a participatory approach to research that emphasized the seeking of alignments and distinctions between different practices that could both amplify and improve the work of the *promotoras* and the organization.

It is important to note that these different forms of expertise were not the exclusive domain of either the *promotoras* or the technologists; there was overlap in terms of shared knowledge, interest, and skill across the participants in the design effort. The *promotoras*, for instance, were familiar with technologies like smartphones and used them regularly to take and post photos of their gardens on Facebook. The technologists, who were in a master's program focused on technology and development, were knowledgeable about issues regarding community empowerment and how technology could be designed with residents in underresourced communities. It was these connections across the groups and their practices that made the syncretic and collaborative design a powerful possibility.

The Promotora App. Concretely speaking, the Promotora App is a software application that runs on Android tablets. The application allows users to design surveys (in Spanish and English), input information into the surveys, and upload these data to the nonprofit's server. The first surveys that the *promotoras* used via the Promotora App were nearly identical to a set of forms that had been used by Impact from the start of its backyard program. The similarity of forms scaffolded the *promotoras*' use of the new tool and eased them into creating new forms and collecting different types of qualitative information from what they had collected before. For instance, the *promotoras* now use the Promotora App to take and share photographs of infestations and thriving gardens to share with their peer *promotoras*, to document brief narratives on their interactions with residents about garden and family needs, and to design surveys that specifically address seasonal garden concerns (e.g., monitoring the delivery and distribution of compost). These are activities on which the *promotoras* and Impact had not previously been collecting systematic data.

Since the introduction of the Promotora App into the nonprofit's social and technological infrastructure, the *promotoras* have routinely used it as part of their work with neighborhood residents. The use of the application has addressed Impact's desire to standardize data collection, facilitate record keeping, and reduce the amount of time staff spend transferring data into the nonprofit's server. The *promotoras* use the Promotora App every time they are in the gardens and have gained facility and confidence with new skills of inputting, saving, and uploading data. Given the successes of using the software application, the nonprofit is considering how the data collected using the application can be more fully integrated into their assessment, training, and evaluation practices. The use of the application has also prompted the nonprofit as a whole to consider how *promotoras* might participate in data analysis activities through the writing and creation of data reports.

Equity by Design. The design of the Promotora App was oriented toward equity in four main ways. First, the software application was meant to facilitate data collection so as to streamline Impact's social justice work in South Elm. This was significant for the Impact directors, *promotoras*, and, in the longer view, neighborhood residents. Better data collection would support getting grants to fund the garden program, the *promotoras'* professional development as community health workers and activists, and improving program enactment. Second, the software application was designed collaboratively with *promotoras* so that their perspectives on the issues that shaped their relationships with residents and hence their efforts at community organizing could be captured by the technical infrastructure of the software program. In line with Suchman's (1995, p. 56) perspective on the value of making work visible in a complex system, self-representation is "a form of empowerment," and participatory design offered a way for the *promotoras* to represent their own work. This aspect of the social design experiment was aimed at transforming the representational practices that defined data collection at Impact; through this shift, the possibility for change at the institutional level was purposefully instigated and built into the nonprofit's technological infrastructure. Third, the Promotora App was designed to be used by the *promotoras*. We did this so that the *promotoras* could gain greater facility in using technologies that involved data input, data aggregation, and data analysis. This was a stated desire of theirs that they viewed as an important first step toward professional advancement in the nonprofit and potentially higher paying positions. Fourth, and related to the aforementioned dimension of the design, creating the Promotora App so that it could be integrated into the *promotoras'* routine work practices was also meant to disrupt the division of labor at Impact, in which the *promotoras* did manual work and the White, college-educated directors (and other staff) did the intellectual work. Organizing ways for the *promotoras* to contribute more fully to the mission of the nonprofit was valued by both the codirectors and the *promotoras*; the practicalities of how to do it were where the nonprofit had struggled in the past. The research team saw integrating the Promotora App into the day-to-day functioning of the organization as one way to challenge entrenched practices that perpetuated inequities.

Another important outcome of the design process was that the Impact directors came to appreciate the work that the *promotoras* were doing in the community above and beyond growing gardens. Our conversations about what *promotoras* were learning about community needs and how (in some cases) *promotoras* were addressing them on their own were enlightening for the office staff at the nonprofit. Although the fact that these supportive and trusting relationships were developing was why Impact wanted to implement a *promotora* model in the neighborhood, the details of their functioning had not been

fully visible to the directors. The Promotora App has become a way for these activities to be more widely understood and valued.

New Ways of Being Historical Actors. Analysis of multiple data sources, including field notes, videotapes, and interviews, provides evidence that the *promotoras* are developing *new* ways of being historical actors. We emphasize “new” ways because the *promotoras* were already historical actors through their actions and views on the value of garden growing and community organizing in South Elm. Our design intervention is not solely or primarily responsible for the *promotoras*’ further development as historical actors; rather, the intervention grew out of a long-term partnership of support and was embedded within a dynamic and responsive activity system. The *promotoras*, the codirectors of Impact, the residents in South Elm, the research team (including the technologists), and the Promotora App all contributed to the enhanced professional positioning of the *promotoras* and their sense of future possibilities.

A number of specific actions on the part of the *promotoras* speak to this shift in the *promotoras*’ becoming as historical actors; our analyses have documented these shifts at different timescales of activity including micro- and ontogenetic development (see Jurow, Teeters, Shea, & Severance, 2014). For example, the *promotoras* have leveraged the insights that they have gained about the significance of their work and its near invisibility to voice their opinions to the nonprofit leadership. For example, in a first-of-its-kind presentation by the *promotoras* to Impact’s board (audio recording, January 31, 2014), the *promotoras* shared what they viewed as their successes and challenges. In that meeting, the *promotoras* were literally at the table with the nonprofit’s leadership to express that they would like to be privy to more of the information shared with the board, particularly as it related to decisions regarding the development of the nonprofit’s initiatives. Since the *promotoras* officially voiced this concern at the board meeting, Impact directors, staff, and the *promotoras* have been working, in consultation with our research team, to create practices to support more shared and transparent decision-making activities.

In addition to these new ways of communicating about their roles as Impact *promotoras*, further evidence of the *promotoras*’ increasing sense of being historical actors includes the fact that they have sought and received support from a private foundation to fund a community grant. The grant is focused on the prevention of domestic violence and is the first grant for which the *promotoras*, without the direct support of Impact, have applied. The *promotoras*, in other words, are using their expanded set of tools to forge new pathways for their community.

That said, there are a number of tensions related to the *promotoras*’ more agentic positioning at the nonprofit. How can the *promotoras* make time to learn new technological and analysis skills given the intensive demands of their

gardening and community advocacy work? With the *promotoras*' increased skill set, what kinds of reward structures can support the *promotoras*' growth within the organization? How can these be offered within the constraints of working with a largely undocumented workforce? We recognize that these tensions are not to be avoided but need to be engaged productively in order to appreciate the full complexity of our codesign work. Rather than avoid the reality of these tensions, the LFM team is naming and embracing them as part of our work with the *promotoras* and Impact as we try to extend the consequentiality of the *promotora* model across personal, institutional, and political scales of practice.

DISCUSSION AND CONCLUSION

An enduring challenge in research on learning is understanding human activity in context. How do contexts—present and historical, near and far, individual and collective—matter for determining the meaning and consequentiality of social action? In the Western conception, learning has historically been treated as an individualist, cognitive endeavor. The result of this has been a de-emphasis on the social world and how its organization affects the nature of problems and the way people deal with them (Gardner, 1987). The field of the learning sciences developed to overcome these limitations through emphasizing interdisciplinarity and focusing on real-world problems. As the signature method of the field, design-based research has allowed for processes of learning to be designed, documented, and refined as part of the dynamic activity contexts in which they unfold (Barab & Squire, 2004; Cobb et al., 2003).

Social design experiments, as we have discussed them, aim to expand the toolkit for designing in the learning sciences so that it can connect the goals of design work more directly with social purposes. As we have shown, this approach is organized to identify and address issues that are consequential for learners, especially those who have suffered because of social and institutional arrangements that have limited their opportunity for learning and becoming. Social design experiments, along with new developments in the study of learning, including research–practice partnerships (Bang, Medin, Washinawatok, & Chapman, 2010; Coburn, Penuel, & Geil, 2013), draw critical attention to how researchers and communities can work together to organize more just social futures. In this way, social design experiments are also sustainable in the sense that community partners can be more invested in the codeveloped designs, and through their expansive nature the designs evolve over time.

In social design experiments, as we have demonstrated in our cases, we cocreate design activities that connect learning across peer and youth cultures, home communities and institutions of health care, and social and educational systems in ways that enable people to envision and design their own collective

futures. The design approach is predicated on the development of new tools and practices that leverage both everyday knowledge and scientific practices, including academic text structures, conventions, dispositions, and engagement with a range of texts and tools fundamental to college-going, community-based, civic, and work-related literacies. With the aim of organizing for consequential learning that can be expansive and empowering for participants, social design experiments offer a way for the learning sciences to embrace the twin goals of deepening learning and contributing to a more equitable social world.

It may go without saying that social design experiments are extensive commitments. In addition to conducting historical research on a community and engaging in ethnographic analysis of participants' lives in order to identify which practices can be leveraged for powerful learning, this approach requires deep trust, vulnerability, and responsiveness to community stakeholders. Developing a program of research, organizing interventions that are mutually beneficial, and creating space for the negotiation of roles and desired outcomes push on the traditional goals of research and are time intensive.

Some of the ways in which we have managed the challenges of doing social design research include developing both short-term and long-term goals with our partners, preparing different types of reports for varied audiences, and renegotiating our roles and goals over the life of a project. We have been afforded this flexibility through the types of funding we have intentionally sought. Jurow, for instance, has received yearly support from her university's outreach and engagement office to focus on specific problems of practice generated by her community partner. She has chosen this type of funding because outreach at her particular institution is deeply focused on sharing the expertise of the university in ways that genuinely serve community needs. Gutiérrez received an ongoing commitment from her university and California's State Department of Education to support the further education of migrant students. This provided infrastructure to run the program as an ongoing institute on the university campus, for student tuition assistance and credit, as well as for the residential component of this intensive academic program.

As a result of these kinds of institutional funding resources and a range of institutional commitments, our social design experiments were afforded flexibility in problem definition, problem-solving methods, and transformative program design. The support of our universities, as we have suggested, was critical for our research; without the partnership of community members, however, our work could not have existed. Attention to the goal of transformative learning that can be consequential for participants requires honest appraisal of a project's value and its contradictions, especially for our community partners. Developing strategies for partners to communicate their perspectives on our collective work, its significance for their goals, and what we could do to work together more effectively is an ongoing process that cannot be anticipated fully ahead of time. It is our hope that by articulating and exemplifying the principles and practices of

social design experiments, we can inspire others to participate in continued engagement with this relatively new and, we believe, powerful approach to design research. At their best, social design experiments like MSLI and the LFM project have the potential to become lived arguments for the possible, what Cole (1996) described as “imaginative artifacts that color the way we see the ‘actual’ world, providing a tool for changing current practice” (p. 121).

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