Learning as Multi-Dimensional Psychological and Cultural Ecological Spaces

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Abstract: This symposium addresses challenges of understanding learning as multi-dimensional and embedded within and across multiple levels of contexts. Each paper articulates frameworks for designing and evaluating the impact of interventions in single and multiple settings that explicitly address how issues of identity, relationships, and belief systems within and across non-dominant communities can be leveraged and understood to support robust learning. Paper one presents a multi-dimensional, ecologically focused design framework for supporting literacy as identity building among a cohort of African-American urban adolescents and presents data from a longitudinal study implementing the framework. The second presents the framework for a multi-site ethnographic methodology conceptualizing learning as expansive, focusing on generative repertoires for learning in diasporic and other non-dominant communities. The third presents design principles enacted in a program for African-American adolescent male development addressing issues of identity, perceptions, and relationships as drivers for robust learning and implications for policy and practice.

Symposium Overview

This symposium addresses the challenges of understanding learning as multi-dimensional and embedded within and across multiple levels of contexts. In contrast to much of our efforts to address learning as essentially a set of cognitive processes within the minds of individuals and even attention to the dynamic interactions among people within settings where people learn, these symposium papers attempt to target the design challenges of a conceptualization of learning that goes beyond these traditional constraints. We will first describe the conceptualization of learning that informs the research presented across papers.

There is an increasingly accepted proposition that learning entails the transformation of cognitive processes for individuals through people's interactions with one another and artifacts over time. However, there is also a strong accumulation of evidence from across disciplines that the processes through which humans actively engage in learning include their perceptions, their emotional states, and their relationships with others. The mechanisms through which these occur are embodied in physiological processes. Perceptions of the self, of tasks, of settings, and others with whom we interact matter for goals and effort. These perceptions include emotional states and impact the nature of relationships that we strive to develop. These perceptions are deeply influenced by the broader ecologies in which we live, such that shared values and practices around kinds of identities (regarding gender, ethnicity, race, class, and abilities) matter. The sources within the various contexts in which we routinely participate (e.g. family, school, peer social networks, neighborhoods, the cultures, institutions and practices within nation states and across diaspora communities) provide a hybrid medium for the construction of these perceptions over time. These multi-dimensional intra-psychological processes (e.g. cognitive, emotional, phenomenological, social) interact with features of learning environments that inevitably entail multiple settings. Moreover, what kinds of learning environments are available to us are highly linked,

especially in the U.S., with class, race, and ethnicity. One of the limitations in education broadly speaking and in the learning sciences has been the dominance of hegemonic belief systems about the affordances of different contexts for learning, compounded by particular constraints imposed largely by economic status (e.g. underfunded schools; "food deserts"; inadequate access to health care; few neighborhood youth organizations, etc.).

And so we argue that attention to the design of robust learning environments requires understanding: (a) the multiple cognitive, social, phenomenological, physiological and emotional processes that are deeply intertwined in acts of learning; (b) the ways that these multiple intra-psychological processes of learning are influenced by participation in current and historical cultural practices; (c) the centrality of relationship building; (d) the repertoires that are both available and developed through people's participation within and across the multiple settings of their lives; and (e) how these repertoires are deeply connected to contemporary and historical cultural ecologies as well as to political and economic ecologies. These complex relationships entailed in learning are also deeply sensitive to time, especially time within and across the life course; and so understanding patterns of development within cultural communities from childhood into adolescence into adulthood matters for what learners must wrestle with and what repertoires are available to them for such wrestling. And finally, we will argue for a discipline specific focus on the tasks or objects of learning. By disciplines we refer not only to forms of academic knowledge typically associated with learning in schools, but equally to forms of disciplined knowledge entailed in a variety of learning tasks outside of school.

We think that a significant center to this multi-dimensional psychological and ecological space we have described has to do with the work of identity building and thus is connected to the conference theme of "Learning and Becoming in Practice." We hope to push this theme by proposing that this intellectual space we have described affords multiple identities, becoming persons who can navigate within and across multiple spaces, and explicit attention to the ways that political and economic positioning can complicate what learners must wrestle with in order to develop multiple identity repertoires and possibilities of becoming.

We are very clear that these grounding propositions are wide ranging and as a consequence difficult to capture in the design of robust learning environments and in thinking about the kinds of data and methods of analyses we will employ to understand what and how people learn in such designed environments. The papers in the symposium offer models for approaching the kind of complex, multi-dimensional and multi-contextual learning we have described. Each paper articulates the rationale for addressing the multiple dimensions identified in the problem space we have described; describes the rationale for how the questions posed attempt to struggle with this complexity; and describes how the data collection and methods of analysis seek to examine complex multi-dimensional relationships in ways that take culture as well as political and economic positioning into account.

Multidimensional Design Framework for Learning as Identity Work

Carol D. Lee

This paper documents the Cultural Modeling Eco-Cultural, Developmental and Psycho-Social Design Framework that embodies the multi-dimensional and ecological focus of this symposium. The goal of the design research is the transformation of a low-achieving urban high school serving a low-income African-American population to improve literacy outcomes in terms of reading and argumentation in the disciplines. This design stands in contrast to more traditional design research to support academic learning in that it goes beyond attention solely to the cognitive structures underlying the growth of expertise and beyond attention primarily to interactional patterns within classrooms. These more traditional approaches, even within the Learning Sciences, tacitly presume students will be active participants under the features of the designed environment and that who the students are doesn't really matter. Such interventions, especially in the contexts of schools, run up against the challenges of schools as organizations that can substantively unravel the intervention; and the challenges of teachers' opportunities to learn to engage new practices.

This design is multifaceted, focusing on psycho-social as well as cognitive needs of students, on schools as learning organizations that enable learning among adults and students, and on the specific literacy demands of reading in the disciplines. In each focal area, the design requires gathering and building on data that informs what students bring as challenges and repertoires of reasoning and practice that are sometimes complementary and sometimes in tension with the requirements of robust schooling, understanding that these challenges and repertoires are situated inside historical, cultural, social, political and economic ecologies that surround these young people. These foci entail identity work for students, for faculty and staff, and for the school as an organization. For students the intervention supported wrestling with "Who am I?", "Who and what can I become?", and "What is available to me to help me?"

Specifically, the literacy interventions in disciplinary classrooms make discipline specific strategies for critical comprehension explicit through modeling and scaffolding; the modeling and scaffolding draw from the Cultural Modeling framework to build upon tacit understandings of strategies based on students' everyday

repetoires; the content and thematic foci in instruction invite wrestling with explicit social, economic, cultural and political issues that emerge from the ecologies of youths' communities through the examination of texts and production of written and oral arguments. Socio-emotional supports are designed through teachers and staff serving as individual personal advisors for students, enrichment clubs aimed at expanding the horizon of possibilities available to youth in the school, specialized support services (anger management groups, conflict resolution groups, trauma groups, teen parenting groups) as well as structures for student leadership (grade level student councils, leadership roles in clubs, participation in the process of hiring new teachers, restorative justice group). Attention to organizational learning occurs through faculty leadership in all aspects of the school, including the collection and analysis of data on all aspects of the intervention; and through structures such as the Instructional Leadership Team, faculty committees, weekly data driven full faculty/staff meetings; and through professional development ranging from studying adolescent development to the demands of reading in the disciplines. This intervention design is comprehensive in its efforts to address the multidimensionality of learning processes, the complexities of the broader ecologies of students' lives, the specificity of disciplinary learning demands, and the structures of organizations as learning communities in which these activities are supported. Specifically this program of design research seeks to examine person-context-process relationships.

This complex framework requires a broad of array of data collection. In order to document what in the contexts of the communities from which these youth came posed challenge and opportunity we collected epidemiological data on neighborhood density, housing, poverty distributions, crime rates, presence of food deserts, and availability of community youth organizations and health care. This allowed us to create cases reflecting the broader ecologies through which youth had to navigate and our design had to address. In order to document intra-psychological orientations with regard to identity and perceptions of threat, of ability and the school context, we administered an array of validated survey measures. To document proximal processes of classroom instruction, we collected video data and analyzed for participation structures that supported close reading and argumentation. To further ground these observations, we collected samples of student work that reflected the architecture of the literacy intervention. To document proximal learning outcomes, we administered discipline specific pre-post assessments evaluating close reading and argumentation. To document distal transfer learning outcomes, we used data from PSAE scores. This is the 2nd year of a 3 year longitudinal study where we examine not only nested relationships among these categories of variables (identity and phenomenological; process data; and learning outcomes) within a given year, but across years. We have a longitudinal focus because of our developmental lens proposes that there will be differences between early and late adolescence.

Findings

Findings show, despite data showing that most students experienced significant traumas outside of school, adaptive coping and positive racial identity as well as comfort with others, a belief that ability is malleable and reading with a social justice and personal meaning making orientation were positively correlated with gains in reading.

Significance

Efforts to address the challenges of low-performing urban high schools typically focus on organizational accountability via test scores through efforts aimed solely at curriculum and/or professional development interventions. This study, grounded in understanding learning as entailed in identity processes that are sensitive to life course development, offers a holistic model of school transformation that integrates a focus on deep disciplinary knowledge with regard to content area literacies and attention to the social and emotional demands of rigorous learning, as these are complicated by positioning in non-dominant communities plagued with poverty. The significance is both conceptual as well as methodological, as exemplified in the multi-dimensional design of the intervention and the layers of data collection and analyses employed.

Studying Movement, Hybridity, and Change: Towards a Multi-Sited Sensibility for Research on Learning across Contexts and Borders

Shirin Vossoughi and Kris D. Gutiérrez

In this presentation, we bring together cultural-historical approaches to human development with interpretive and multi-sited ethnography as a means of working the intersections between expansive theories of culture and learning and methods that place human activity at the center of analysis (Cole, 1996; Erickson, 1986). We argue that this discussion will help us develop ethnographic tools that attend to the ways young people learn within and across multiple contexts, and glean principles that help constitute a "multi-sited sensibility" (Marcus, 1995) appropriate for taking a more expansive approach to learning, and a more adequately complex stance towards young people from non-dominant and diasporic backgrounds (Vossoughi & Gutiérrez, in press). In line with our previous work on social design experiments — design based research oriented towards transformative and

consequential learning — we offer resources for the design, practice, and study of education *as it could be* (Gutiérrez & Vossoughi, 2010).

We are interested in understanding, designing, and sustaining learning environments that account for the institutional, political, and social demands and contradictions youth negotiate as they move in and across the ecologies that constitute everyday life (Ito, et. Al., 2013; Nasir, et. Al., 2006). Following Gutiérrez (2008), we use the metaphor "learning as movement" to call attention to the ways in which youth develop repertoires of practice, and to push on extant theoretical understandings in which the cultural nature of learning is underspecified or misunderstood. We offer an alternative to methodological approaches that do not account sufficiently for current sociopolitical and demographic realities, or attend to the literal and symbolic borderlands and hybrid spaces that give refuge to and engender ingenuity for diasporic and non-dominant communities. In contrast, multi-sited research is centrally concerned with displacement, hybridity, and multiply constituted subjectivities. This approach is useful for unsettling normative assumptions about culture and learning and retooling our interpretive lenses for the intellectual work involved in navigating modern borders in all their myriad macro- and micro-political forms. From a multi-sited perspective, such interpretation involves attending to the ways young people forge new connections and forms of resistance, and participate in the creation of hybrid environments and tools.

A "multi-sited sensibility" for studying learning across contexts may therefore inquire into the ways people, ideas, tools, artifacts and questions, move and become reconstituted across the boundaries of school, home, and community spaces *and* across the multiple contexts and environments that constitute a singles setting. As equity-oriented researchers, we emphasize the fact that such movement is always mediated by questions of power and politics. In this vein, we ask: Whose linguistic, cultural, and intellectual resources are free to move across settings or hybridize, and whose are prohibited, devalued, and marginalized? How do teachers and students enact, disrupt and reimagine these boundaries in everyday practice? How might the borderlands create particularly rich opportunities for students to syncretize and ply their learning? We consider how developments in multi-sited ethnography (Falzon, 2009; Marcus, 1998; 2009) offer tools for grappling with these questions, and for challenging the imposition of normative cultural categories on the learning experiences of young people from migrant, immigrant and diasporic backgrounds.

Our broader interest lies in developing methodological and theoretical resources for the creative expansion of equity-oriented educational research and practice. To this end, we articulate the contours of a multi-sited sensibility as an emergent tool, one that we hope offers new ways of seeing, listening, understanding and working to identify spaces for potential and possibility across the settings young people experience and traverse in their everyday lives. We argue throughout that a "multi-sited sensibility" draws on the analytic power of ethnographic approaches to study and advance conceptions of *learning as movement* in ways that call attention to cultural repertoires that are necessarily co-constituted and leveraged across places, spaces, and time scales. We are drawn to the notion of a methodological "sensibility" as we believe it connotes and invites us to develop a *disposition* towards equity-oriented and ecologically valid research that can be generative for both single and multi-sited ethnographic studies.

Creating Productive Ecologies of Learning for African American Students: Successes and Challenges in Oakland

Na'ilah Suad Nasir and Maxine McKinney de Royston

Learning scientists have attended to the ways that creating optimal learning environments requires attending not only to the cognitive dimensions of learning, but also to the identity dimensions, the interpersonal dimensions, and the ways that learning arrangements are cultural and racialized spaces (Nasir, 2012, Polman & Miller, 2010). While scholarship in the learning sciences has begun to examine these psychosocial dimensions of learning, contexts of learning, especially those related to school, also involve policy and district contexts which are consequential to the way learning environments unfold, and the ways they engage students from marginalized groups.

This presentation focuses on a district-wide initiative, the African American Male Achievement Initiative (AAMAI) in the Oakland Unified School District, and describes the learning opportunities created by the initiative in two key ways: 1) a focus on whole school reform to support the success of African American students, and 2) all-Black, all-male "manhood development" courses which were offered to 9th-10th grade students in several district high school and middle schools. Our analysis highlights the multiple levels of policy and practice, from the ideologies and policy decisions at the district level, to school level implementation, to the nature of experiences (experiences of learning, of identity-building, and of engagement) that get enacted at the school and classroom levels. We draw on data from a multi-year study of the AAMAI, including a 3-year study of the manhood development classes, and emerging findings from nine whole-school case studies (including observation at the school and classroom levels, and interviews with administrators, teachers, parents, and

students) of middle and high schools with varying levels of success in increasing learning opportunities for African American students. Findings show that learning opportunities for African American students in Oakland were influenced by factors at each of multiple levels. In the presentation we detail the characteristics of classroom and whole school environments that provide productive and transformative learning identities for students, that position Black students as thinkers and learners, and that build productive and transformative caring relationships for students.

In particular, findings highlight three dimensions of successful classroom learning environments: 1) They employ new kinds of culturally-congruent disciplinary practices, 2) They debunk and reframe negative stereotypes about Black students, and 3) They attend to the building of multi-layered community relationships. With respect to the ways that whole-school settings support or challenge the creation of successful learning settings for African American students, emerging findings suggest that a shared mission on the part of school administrators and teachers, and attention to creating a whole school climate that centers creating supportive and engaging experiences for African American students, and explicitly countering dominant ideologies and practices are all critical aspects of successfully supporting African American learning. Implications for the design of learning environments are discussed.

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