Accessing resources for identity development by urban students and teachers: foregrounding context

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Abstract Many attempt to address the documented achievement gap between urban and suburban students by offering special programs to enrich urban students' academic experiences and proficiencies. Such was the case in the study described by DeGennaro and Brown in which urban students participated in an after-school technology course intended to address the "digital divide" by giving these youth supported experiences as technology users. However, also like the initial situation described in this study, instructional design that does not capitalize on what we know about urban education or informal learning contexts can actually further damage urban youths' identities as learners by positioning them as powerless and passive recipients instead of meaningful contributors to their own learning. The analysis presented in this forum is intended to further the conversation begun by DeGennaro and Brown by explicitly complexifying our consideration of context (activity structures and setting) so as to support the development of contexts that afford rich learning potential for both the urban students and their learning facilitators, positioned in the role of teachers. Carefully constructed contexts can afford participants as learners (urban students *and* teachers) opportunities to access rich identity resources (not typically available in traditional school contexts) including, but not limited to, the opportunity to exercise agency that allows participants to reorganize their learning context and enacted culture as needed.

Keywords Identity development · Urban education · Learning contexts · Informal learning · Urban teacher education

Youth voices: Connections between history, enacted culture and identity in a digital divide initiative by DeGennaro and Brown demonstrates the potential influence of history to direct and either encourage or limit participation in learning experiences, and thus the

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importance for instructional designers (e.g., teachers) to thoughtfully consider individual learners' backgrounds in their planning. These authors' analyses of urban youths' evolving experiences in an after-school technology program foreground a dialectical relationship between the activity's structure and students' agency within and across various stages of the course implementation: changes in students' exercised agency effected changes in the structure of the learning experience and these changes in structure then made room for an increased student agency and self expression. By looking across ways the activity structure and adopted forms of participation changed over time for both the teachers and the students, it became clear that an essential element of success was teachers' understanding of (and appreciation for) the unique perspectives, backgrounds and interests of their students—this “bridging” of students' prior identities with the desired or projected identity (Gee 2003) allowed for the “broadening” of students' experiences to incorporate designed aspects of a technology-user's identity (Luehmann and Markowitz 2007).

This response to the study of how culture and agency play a role in youths' identity development by DeGennaro and Brown is intended to foreground and complexify our consideration of the learning context (activity structure and setting) using identity development as a theoretical lens. Specifically, considering both the urban students *and* youth-aged teachers as “learners” who are both engaged in developing identities (i.e., “technology-user” and urban teacher), this response considers, compares, and contrasts specific affordances of the structured learning experiences at the two ends of the experienced spectrum: at the beginning and the end of the semester-long course. In addition, this response considers likely contributors to the realized beneficial shift from more teacher-centered to more student-centered instruction, including (1) contextual characteristics unique to out-of-school learning settings and (2) ways both groups of participants positioned themselves and engaged in the course. Four sets of implications are drawn for those who hope to nurture learners' identities in ways that capitalize on the unique affordances of out-of-school learning contexts especially to address issues of equity and social justice of urban youth who have been traditionally marginalized in academic discourses: (1) the importance of and potential ways to assess initial identities with respect to a particular discourse; (2) ways to decrease “social distance” between mentors (especially youth mentors) and students in order to capitalize on the impact of near peer modeling; (3) the need and possible ways to support both the teachers/facilitators and the students in the *process* as well as the *outcome* of a designed learning program; and (4) potential benefits and limitations of more explicitly connecting an experience such as this technology course to institutional schooling. I begin by first making explicit my working understandings and use of “learning” and, specifically, learning and support for learning (teaching) in urban contexts.

Theoretical and empirical foundations

Learning as identity development

Like DeGennaro and Brown, for the purposes of this forum, I agree that identity development is an appropriate and powerful lens for considering the learning intended to be nurtured through the after-school technology course. The program was designed to support urban youth in more than just developing understandings and skills of technology use; instead it was designed to nurture a new identity as a “technology-user.” Building off the work of Gee, I define identity as recognition as a certain kind of person. This recognition occurs in the interpretations of one's engagement in common everyday experiences—what

Gee (2005) refers to as “big D” Discourses. More specifically, Gee defines Discourses as “ways of combining and integrating language, actions, interactions, ways of thinking, believing, valuing, and using various symbols, tools and objects to enact a particular socially recognizable identity” (p. 21). As Gee (2005) articulates, it is important to keep in mind that, while one’s *participation* within a given Discourse is necessary in order for a new identity to develop, *it is in the interpretation or recognition of that participation, by self or others, that identities are formed*. In another article, I extended this discussion by considering this participation and recognition work specifically in the case of the professional learning of reform-minded science teachers (Luehmann 2007).

Identity development occurs as one brings current beliefs about what she cares for, is competent with, and is knowledgeable about to bear on participation in the practices of this new Discourse. Alsup (2006) argues that this learning occurs in “borderland discourses,” a place in which the learner acknowledges that she has things to learn. Alsup writes, “Finding and inhabiting these borderlands between discourses occurs as the result of cognitive dissonance and often results in increased metacognitive awareness and identity growth” (p. 9). Therefore one indicator that this growth is occurring is the presence of wrestling by the learner as she identifies and seeks to understand and reconcile interpretations of events that do not appear to make sense. These wrestlings occur because of an apparent misalignment between what she knows historically (current discourses) and what she is learning through new experiences and participation (desired discourse). It is in these struggles where new meaning can be made. Thus, in supporting learners’ growth, the goal is to help them reach “this in-between ground, the place of becoming, the space of ambiguity and reflection” (p. 9). Further, the findings from Alsup’s research indicate that learners, when participating in this integrative discourse, both did *not* completely reject their own discourses and *did*, at least in part, accept aspects of the discourses of the “other.” Gee (2003) also writes about the importance bridging elements of identity development that can help learners reach these borderland discourses:

...if children cannot or will not make bridges between one or more of their real-world identities and the virtual identity at stake in the classroom... or if teachers or others destroy or don’t help build such bridges, then, learning once again is imperiled (2003, p. 61).

Bringing these discourses together involves not only participating in new practices, but also interpreting and recognizing that different participation. Many notable scholars describe the power of stories to transform as well as narrate one’s participation and thus develop one’s identities. “We invent who we are in the stories that we tell” (Kerby 1991, p. 6). Sfard and Prusak (2005) describe the most influential story-telling impacting a person’s identity and future actions to be the stories a learner tells herself about her own participation, as she is best able to understand and interpret her own participation in light of the identity she is trying to develop. Sfard and Prusak also highlight the important role to be played by “significant narrators” whom they define as people whose opinions and interpretations (of the learner’s practice) the learner most values and respects. Clearly, educational experiences need to offer learners opportunities to recognize their own growth as well as position themselves to be recognized by others as growing—narrating stories of their own learning and development.

Urban teaching and learning

Like DeGennaro and Brown in this article, Weiner (1993) in her work to inform and support teachers of urban students, repeatedly emphasizes the importance of foregrounding

characteristics of traditional urban learning contexts as a lens for interpreting students' participation and designing effective lessons and experiences:

The life experiences of poor, minority students who make up a majority of the student population in urban schools are a vital consideration in teacher preparation, but these experiences are most fruitfully analyzed when they are seen in relation to school characteristics. (p. 107).

In this forum, as I consider the learning contexts that enable or limit urban students' engagement in their learning, I will define *context* as the circumstances and setting in which an event occurs (e.g., Dilley 1999).

Characteristics of contexts familiar to urban learners. Urban youths' typical experiences with schooling offer insight into the academic identities many bring to other structured learning experiences such as the after-school experience investigated here (Barton 2002). A study conducted over 20 years ago (Giroux and McLaren 1986) defined reoccurring conditions of urban schools that Haberman (1991) referred to as the "pedagogy of poverty," conditions that researchers are still finding prevalent today: strict adherence to many school rules, inordinate amount of class time dedicated to maintaining school organization, little student or teacher control over assignment to courses, course content dictated by external examinations, and custodial treatment of students dictated by a lock-step curriculum (Seiler 2005). Both LaVan and Seiler emphasize the fact that power is rarely shared with teachers and between teachers and students in urban schools. Urban students are less likely to have access to rich, inquiry-based learning experiences which is especially true when classrooms, like many urban classrooms, have insufficient access to resources including equipment, a lack of challenging and meaningful curriculum, and a lack of opportunity to develop a sense of community especially with one's teachers (National Research Council and the Institute of Medicine 2004). Urban education tends to focus on control over individual expression, behavior over understanding, and passivity over engagement (Lee 2005)—resulting in many urban students having damaged relationships with their teachers (Settlage and Meadows 2002) and damaged academic identities especially with respect to science (Olitsky 2006).

Learning supports for urban students. In the case of supporting learners who may have damaged identities with respect to a given discourse (such as academic science or technology), Gee (2003) emphasizes the need for "repair work" which he claims "is just a more intense version of good teaching and learning for all types of students..." (p. 61). This repair work involves creating learning situations that (1) entice a learner to try ("even if he or she already has good grounds to be afraid to try"); (2) motivate the learner to put in a lot of effort ("even if he or she begins with little motivation to do so"); and (3) give the learner opportunity to experience meaningful success (pp. 61–62). Safe and supportive learning contexts are thus key to the development of a new learning identity for urban students who may not have had positive, nurturing and effective experiences in schools.

One important way to develop safe and supportive learning contexts is to nurture relationships between students and their teacher(s). Through these relationships, teachers can better understand and learn to capitalize on individual student's unique interests, strengths, understandings and skills. These relationships are especially important in urban settings as the "social distance among urban teachers, their students, and the community tends to be far greater than it is in the suburban schools" (Weiner 1993, p. 115). Specifically, offering new teachers (especially, White, middle class, young teachers) opportunities to develop an in-depth relationship with a single urban student proved effective in supporting new urban teachers' professional identity development (Dow 1979).

One possible means to afford these resources (e.g., decreased social distance, intimate relationships between teachers and students, and engaging and safe places to try on a new identity) and thus address social justice issues related to urban education is the design and implementation of supplementary educational experiences for urban students that occur outside of the traditional classroom and school setting. Spillane and his colleagues challenged those who study the impact of resources on science education to extend their vision and definition of resources beyond the particular school to the multiple contexts of the community in which the school is nested (Spillane et al. 2001).

Many science enrichment programs housed outside of typical school settings have been developed as a unique and powerful way to give students supported access to authentic scientific tools and experiences such as hands-on inquiry based investigations as a way to enhance students' achievement in science, attitudes towards science, and understanding of the nature of science (e.g., Bell et al. 2003). These experiences offer science educators one way to extend and support the use of possible science learning resources outside the classroom to the rich context of their communities, thus reducing the social distances prevalent in urban settings highlighted by Weiner. Examples include museum learning, university-outreach programs, summer science camps and apprenticeships, and outdoor adventure learning. These diverse experiences have the potential to offer learners access to learning that often differs significantly from (and therefore have the potential to complement) school-based science (Resnick 1987).

Resnick (1987) suggests that out-of-school experiences often require participation in a socially functional group which offers students social support for their learning (e.g., Vygotsky 1978) whereas school work is often individual. Out-of-school experiences tend to make extensive use of authentic tools that shape and facilitate learning whereas in-school priorities often center on proving that one can do the work without texts and other tools. Nasir and Hand's (2004) study of African American high school boys' mathematics learning on the basketball court compared to the classroom confirmed these findings as they describe, in detail, the many additional resources (such as central positioning, increased and timely feedback, and increased activity, agency and accountability) made readily available in the nontraditional setting compared to the traditional one. These comparisons of out-of-school to in-school learning suggest that the benefits of out-of-school learning may be even more amplified when considering typical challenges faced by urban science education because of the scarcity of resources available in many urban science classrooms which preclude teachers and students alike from accessing important authentic tools (NRC and IM 2004). Prior work conducted by a colleague and me (Luehmann and Markowitz 2007) highlighted an additional benefit of improved relationships between teachers and students due to the new vantage point and lens with which they "saw" one another (e.g., teachers *saw* students using authentic equipment and being meaningfully engaged in creative, rigorous scientific work thus redefining their perceptions of students' interests and capabilities; and students *saw* teachers' perspectives as aligning with those of "real scientists" thus validating teachers' perspectives and content knowledge).

Gee's (2003) work on identity also suggests ways in which science students can benefit from out-of-school, authentic experiences. Gee highlights the need for learners to actively and meaningfully try on 'projected identities' as a way of engaging with a new semiotic culture, as in the case of science or technology. For example, students wearing lab coats and goggles, using microscopes and micropipettes have the opportunity to consider the identity 'self as scientist' as they work in authentic settings and use authentic tools. Engagement with authentic contexts, processes and tools in a low-risk yet compelling way offers students the opportunity to experience what Erickson (1968) called a *psychosocial*

moratorium- an engaging and psychologically safe chance for learners to experiment with the (possibly new or damaged) identity of self as scientist. Gee (2003) emphasized the importance of this opportunity as a prerequisite for development and meaningful learning in a relatively unfamiliar semiotic domain.

Findings from a secondary analysis using context as a lens

The presence and interactions of two groups of learners

Before considering the impact of context on learners and learning, it is important to identify who the learners were and what evidence existed that learning occurred. A secondary consideration of the data and analysis presented in the study by DeGennaro and Brown made it clear that the success of this initiative was dependent on the interactive identity development of at least *two* distinct groups of learners: namely that of the *technology-learners* (urban youth) as well as the *urban teaching-learners* (suburban youth facilitators).¹ The authors foreground the learning of the urban youth as the primary focus of the initiative and corresponding research as they define the primary purposes of their work: (1) “to enlighten educators about the residuals of institutional and social structures that often inhibit Black teens’ learning and development” including “reasons for resistances that arise in the interstices of structures and participation”; and (2) “to facilitate positive educational and identity outcomes in Black youth.” These technology-learners and their identity work were highlighted first, in their lack of ability to articulate a coherent definition of “technology” as demonstration of a weak or lacking identity as a technology-user. As students engaged in the course, drawing on their histories with controlling and limiting educational experiences, they engaged as passive followers of step-by-step instructions by a teen facilitator. After negotiating a new culture that afforded themselves additional ways to participate, students demonstrated evidence of their learning through the creation of personally meaningful websites that simultaneously captured and supported the development of their identities. When considering the dialectic between structure and agency, it was noted that when these youth defied existing classroom cultural norms and advocated for their own form of participation, the facilitators responded by allowing the activity structure to reorganize; thus, these learners changed the trajectory of their own learning. In this reorganization, these learners participated differently, more centrally, in the discourse of technology use.

Similarly, the teaching-learners (youth-aged suburban facilitators) and their identity work were also highlighted (though implicitly through the aforementioned story of the urban youths’ identity development). Impacted by their histories with teaching in which, as students, they were required to “sit, shut up and... absorb,” they began by scripting and executing step-by-step lessons with little to no consideration of the resources or interests of their students; through observation, collaborative conversations, and reflections with peers, they began to notice the competencies and personalities of their students; and, after developing relationships with their students, they realized that not only could their students

¹ It is likely true that a third group, namely the directors of the after-school initiative, may constitute an equally important third group of “learners” as they appear to have released control over time allowing both of the other learner groups new acceptable forms of participation in their learning thus evidencing their own learning and identity development with respect to what it means to “direct” such an initiative; however, the data for this group were not made available in the published manuscript.

contribute meaningfully to their own learning, but that they, as facilitators, had things they could learn from their students. When considering the dialectic between structure and agency, it became clear that when these teaching-learners defied classroom cultural norms (defined by the program directors' expectations for limits and control) to make their own pedagogical decisions that allowed for, even nurtured and encouraged, the input of their students, their own learning trajectories were changed. In this reorganization, these learners participated differently, more centrally, in the discourse of teaching.

From this brief discussion of these two groups of learners, it becomes clear that the findings cited by DeGennaro and Brown apply not only to the urban students but also the suburban facilitators as both were engaged in meaningful identity work. The experiences of these two groups are compared further in the following section.

Comparison of contextual characteristics of activity structures

The emergent reorganization of the learning activities described in the study by DeGennaro and Brown resulted in a beginning and an ending activity structure that differ dramatically from one another. The initial activity structure (developing a website about a potential future job interest), determined in large part by the program's directors and intended to structure student learning, was characterized as "scripted," "teacher-directed" control over student participation to the level of telling students how to click on which buttons to proceed. The ending activity structure (developing a personal webpage about interests, community and history), developed by the youth facilitators *in collaboration with* the urban students, was characterized as much more "student-centered" and open-ended.

While learning as identity development occurs through *participation* in specific activities of a given discourse (that of technology use or urban teaching, in this case), not all forms of participation and engagement are equal with respect to learning potential. Indeed, as discussed above, some learning experiences afford more identity resources than others. In this review, I intend to extend the conversation beyond consideration of learners' access to agency to articulate additional specific and unique aspects of emergent cultural practices present in each of the two activity structures. Specifically, I propose the following types and dimensions of identity affordances as a lens for comparison of the two activity structures as well as between the two groups of learners: level of activity, level of agency, level of support, distribution of expertise, amount and timing of feedback, importance of feedback, level of learner accountability, positioning and opportunities for meaningful recognition (informed by the work of Nasir and Hand 2004). See Table 1 for further explanations of each identity resource as well as the results of the analyses that allowed these comparisons.

The first four rows of the table: (i.e., level of agency, level of activity, positioning, and opportunities for meaningful recognition) could be characterized as "identity work" as the focus is on opportunities to participate in a specific discourse and to have that participation recognized. It is very interesting to note the parallels in identity work across the two groups. Both groups of learners were generally passive and exercised little agency during the initial activity structure; both groups followed directions given to them from people perceived to have more power (for the students, these people were the youth facilitators; for the teachers, these people were the program directors). Neither group was centrally positioned in the discourse of the identity they were developing, and because they were simply carrying out someone else's intentions and directions, there were few opportunities for meaningful recognition (by selves or others) for developing competence, understandings and values associated with their respective projected identities. In contrast, the ending activity structure offered both students and youth facilitators much agency with respect to

Table 1 Characteristics of emergent culture using access to identity resources as a lens to describe the movement from initial to final instructional design

Identity resources ^a	Urban learners/Technology-learners		Urban teachers/Teacher-learners	
	Initial activity structure	Ending activity structure	Initial activity structure	Ending activity structure
Identity work				
Level of agency	Little to no agency <-> much agency (decision-making; power)	None	Little	Much
Level of activity	Passive <-> active			
Positioning	Only peripheral participation allowed <-> central participation required	Passive Peripheral	Passive Peripheral	Active Central
Opportunities for meaningful recognition	Few opportunities for opportunities to display competence	Little to no opportunities for recognition that was personally meaningful	Little to no opportunities for recognition that was personally meaningful	Significant opportunities for meaningful recognition by a community
Distribution of expertise	Expertise located in the individual <-> expertise is distributed	Located in "teacher"	Located in "teacher"	Source of acknowledged expertise expanded to include self, peers and students as community
Amount and timing of feedback	Less and delayed <-> more and immediate feedback	Significant and immediate	Little understood or acknowledged as useful	Significant and immediate—emotional energy as an indicator (Tobin 2005)
Importance of feedback	Peripheral to the activity <-> central to the activity	Peripheral to identity development with respect to technology use as defined	Unknown	Central to identity development with respect to teaching
Level of support	Little to no support <-> much support	Much with respect to physical use of technology	Unclear—focused on teaching skills	Additional accepted support from peers and students
Level of accountability	Little learner accountability <-> much accountability	Accountability only for doing	Accountability for doing (directors, faculty)	Accountability for doing and understanding (also students)

^a Based, in part, on Nasir and Hand (2004)

both process and product and required thoughtful and active engagement. Thus this activity structure afforded opportunities for both groups of learners to be positioned more centrally in their respective discourses, and this central participation, in turn, offered both groups opportunities for personally meaningful recognition of increased competence by self as well as many other groups (including peers and program directors).

I characterized the second group of identity resources (the next four rows in Table 1) as “identity support.” This group includes the distribution of expertise in the system, the level of support, and the amount, timing and importance of feedback. With respect to the distribution of expertise, both groups of learners experienced a move from the teacher being the sole source of knowledge to a community-based culture in which students and teachers (not just program directors) had valuable and meaningful things to contribute. Though students appeared to have received quite a bit of attention and feedback from teachers throughout the course, the difference between the beginning and the end seemed to be a shift in focus. In the initial activity structure, the focus appeared to be primarily on the *doing* (peripheral aspects of technology use such as how to get things done). In the ending activity structure, the focus of feedback appeared to include doing, understanding *and* contributing to both the process and the outcome, i.e., participating in core practices of how the authors defined “technology use”: namely “creating with and learning through technology in collaboration not only with self but with others.”

It is unclear how much support the youth facilitators received at the beginning, though it is clear that the program directors had input on preferred management strategies and the primary learning goal. At the end of the course, these teachers had shifted to “listen” more acutely to and prioritize the voice of their students. Tobin (2005) writes about the benefits of attending to students’ “emotional energy” as a cue for whether or not instruction is meeting students’ learning needs and, therefore, if adjustments need to be made.

As a teacher researcher, I learned... that teaching practices can be adapted to avoid negative emotional energy since it is a poison that can kill off interactions and the emergence of solidarity. Conversely, instances of positive emotional energy can be contagious and provide foundations for chaining successful interactions, synchrony, entrainment, and solidarity among participants, (p. 41).

Once facilitators’ attention shifted toward the “voices” of (i.e., varied emotional cues provided by) their students, the ending activity structure afforded these practicing urban teachers immediate and ongoing feedback in iterative cycles between their students’ input and reactions and the youth facilitators’ collaborative debriefing, interpretation and planning.

The last group of identity affordances (the last row) could be characterized as “identity expectations.” At the onset, both groups of learners were held accountable primarily for the doing: the students were held accountable for completing activities, and the facilitators for scripting detailed lesson plans to meet the final course objective (i.e., the construction of a website around a chosen occupational interest). The emergent, redefined final activity structure of the course represented very different accountability: the students were expected to create and construct something that was meaningful, useful and defensible for them—a more core aspect of their new identities as technology users; teachers were expected (by each other as well as their students) to engage their students meaningfully in this new, co-constructed project—a very different, more core aspect of their new identity as effective urban teachers.

It is clear through this analysis that the shift that occurred across the timeframe of the course allowed for increased accessibility to valuable and diverse identity resources for both groups of learners. Like DeGennaro and Brown, I will now take a closer look at the specific aspects of the situation that afforded and perhaps encouraged such movement,

foregrounding what role the context of an out-of-school learning setting played in how the participants engaged.

Contextual characteristics that afforded movement

DeGennaro and Brown wrote, “Bringing awareness to the adaptability of structured experiences is critical to how participation is encouraged, and ultimately how it affords identity development.” In the case of both groups of learners, participants’ exercise of agency resulted in moving from the negative impressions of what each had experienced in “school” (i.e., restrictive, controlling, uncreative and passive engagement for the urban technology learners and the “apprenticeship of observation” of teacher-centered instruction for the teaching-learners) to new forms of participation in this out-of-school context of an after-school course. Drawing parallels between characteristics of out-of-school learning experiences (described in the literature review) and realized identity affordances of these two groups of learners (see Table 1) illuminates ways in which these nontraditional contexts can afford learners and teachers the flexibility necessary to create, even co-construct, safe and motivating contexts necessary for identity repair work (See Table 2 for a summary).

Previous research highlights the unique affordances of a community-based non-school context for identity development for both urban learners and urban teachers. For a summary of these benefits, see the first and second column of Table 2 (Luehmann and Markowitz 2007). In this case, it is interesting to consider how each of these characteristics may have impacted ways in which both groups of learners engaged in their identity work, resulting in a reorganization of the learning experience and culture. For a summary of these considerations, see columns three and four of Table 2.

Returning to findings from the literature cited earlier about elements of instruction that hold much potential for meeting urban students’ learning needs (especially for teachers of different cultural backgrounds), it is interesting to note how many of these elements are core aspects of out-of-school learning experiences. To quickly highlight some of these recommendations, I offer this list:

- Weiner’s (1993) and Seiler’s (2005) emphasis on developing learning contexts that can understand and respond to the unique cultural dispositions and interests of urban youth as resources for their own learning through, at least in part, by reducing what Weiner refers to as perceived social distance between learners and their communities of academic supports.
- Dow’s (1979) finding that teachers with different cultural and racial backgrounds can benefit greatly from developing intimate relationships with a single urban student as a way to understand the unique history and cultural dispositions this person brings to her learning.
- Tobin’s (2005) emphasis on the value of listening to the “emotional energy” of a class to know if urban students’ learning needs are being met and using this information to inform how future instructional design decisions should be made.
- Many identity researchers’ emphasis on narrative as identity development (e.g., Alsup 2006).
- Seiler’s (2005) and LaVan’s (2005) emphasis on the need to reorganize learning situations in ways that allow power to be shared between teachers and students.
- Gee’s (2003) notion of “repair work” that includes creating safe places for learners to try on and develop their new identities that entice them to try and put in a lot of effort as well as give them opportunities to experience meaningful success.

Table 2 Characteristics and benefits of nontraditional learning settings

Characteristics of nontraditional learning experiences	Corresponding potential benefits	Ways in which characteristic afforded change and reorganization (DeGennaro and Brown)	Changed participation structures for learners (DeGennaro and Brown)
Independent of school	Decreased institutional accountability and constraints such as standardized tests and 45-minute class periods	Both groups of learners enacted what they knew to be a “school-based model of learning”: teacher-control over passive learners; <i>perceived flexibility</i> allowed youth teachers to respond to students’ self-advocacy	Increased agency for both groups of learners
Practice venue	Opportunities to practice in a low-stakes and thus, “safe” environment	Both groups of learners experienced a series of many, repeated opportunities to “try-on” their new identities	Increased level of activity and agency for both groups
Collaborative with peers; Low student to teacher ratio; small “class” size	Extensive opportunities to receive feedback and recognition from self and significant narrators	Though not collaborative by initial design, low student-to-teacher ratios and small class size allowed for significant interactions between teachers and students, which contributed the reorganization in culture that was much more collaborative across groups.	Increased opportunities for recognition by self, peers and others
Fewer predefined cultural expectations about learning work	Freedom from pre-defined classroom expectations of roles, routines and valued practices	Though both groups began the course with expectations and guidance for participation based on schooling experiences, youth teachers responded to urban students push-back by allowing the culture to be reorganized, inviting more student voice in determining process and product.	Opportunities to share power
Motivational student-centered experience	Primary emphasis on individualized, student-centered instruction and student motivation and engagement	Again, although consideration of urban youth as individuals was not part of the initial design, youth teachers’ responsiveness to their students’ voices and “emotional energy” resulted in the reorganization of the culture of learning in such a way that urban students’ contributions were seen as resources for their technology learning	Distribution of expertise; opportunities for individual voices to be heard; and cultural dispositions understood and used as resources for learning
Supportive space	Increased support such as co-teaching, small group instead of whole-class work, and teacher serving as a mentor	Small student-to-teacher ratios and small class sizes led to much interaction and thus the development of relationships—these relationships developed between individuals and resulted in an apparent decreased perception of social space between members of the two groups of learners.	Distribution of expertise; decrease of perceived social distance; and relationship between individuals who, at first, did not know or understand one another

Table 2 highlights that the benefits inherent in the design of many nontraditional learning experiences (e.g., small student-to-teacher ratios, decreased institutional accountability, extensive opportunities to practice, individualized focus on students' motivation and engagement, and many opportunities to collaborate and have one's success be recognized) can (and, in this case, did) lead to the types of learning experiences that are likely to be most supportive of urban youth.

In addition, these characteristics of nontraditional learning experiences, appeared to have contributed significantly to participants' abilities to reorganize themselves and the culture of their interactions so as to better meet the identity needs of both groups of learners. In this nontraditional context with small student-to-teacher ratios, urban students exercised uninvited agency by engaging in what appeared at first to be unwelcome forms of student participation (what Tobin 2005, referred to as perceived "disruptions") that motivated the resulting reorganization. Again, in this nontraditional context in which teaching and learning were informed, *but not necessarily constrained*, by previous images of what learning and teaching (such as schooling) needs to look like, youth facilitators responded to these "disruptions" by allowing both groups' roles to change as they attended more closely to their students' voices and contributions, thus developing a sense of students' cultural dispositions as resources for their own learning (Seiler 2005). In addition, through this listening, youth facilitators entered their own borderland discourse as they were no longer certain about their pedagogical approach or instructional design and thus were open to new considerations about the best way to proceed.

In this nontraditional context, teachers and students were able to interact extensively one-on-one, allowing relationships to be developed, the perceived social distances to be decreased and thus the learning process and outcomes to be improved (as student-centered instruction). (It is important to explicitly acknowledge that, though the context allowed for this level of interaction, ultimately it was the students' initiative and the facilitator's openness to a cultural change that nurtured these new, increased levels of interaction.) In this nontraditional context, both groups of learners experienced what Roth (2005) argues to be the case: that actions effect change—in this case, both groups of learners' actions effected reorganization that led to positive and meaningful identity development. Finally, in this nontraditional context, both groups of learners were given extensive opportunities to construct their narratives of identity development, and thus, as Sfard and Prusak argue (2005), their new identities: through intimate and ongoing interactions with one another and potentially with the researchers; through the urban youths' story telling through their final web pages; and through the youth facilitators' interactions with peers through collaborative planning and debriefing.

Implications: considerations for future work with urban learners

The work of DeGennaro and Brown and the analysis presented in this response highlight the unique power of out-of-school experiences to nurture the identity development of traditionally disadvantaged youth. Standing in stark contrast to urban youths' more familiar and common learning experiences of school with the many oppressive characteristics outlined prior, this after-school technology course offered participants a structure that was malleable and thus affected by the participants' exercising of their agency resulting in a learning experience that better met students' learning needs. The benefits of out-of-school learning for identity development were not limited to the students. The youth facilitators (who were engaged in the identity work of developing as urban teachers) were given

uncommon opportunities to develop intimate relationships with their students who, at first pass, appeared to be dramatically different from themselves and thus “othered” and anonymous. The small student to teacher ratio allowed for much one-on-one interaction and, over time, relationship-building that resulted in a clearly palpable decrease in perceived social distance between the two groups.

A careful consideration of the work of DeGennaro and Brown, in light of relevant findings from this response and previous research, lead to a number of recommendations or implications for those interested in capitalizing on out-of-school learning experiences to support the education of traditionally marginalized youth. Outlined below are four such implications.

(1) *Assessing initial student identities.* Counter to what the researchers originally deduced based, at least in part, on students’ definitions of “technology,” the urban youth in this study *began* the course with experience and expertise in technology use. This revelation, which occurred over time through the urban students’ use of free time with the computers and Internet, proved to be influential in changing how the youth facilitators “saw” their students and their abilities. These demonstrated practices in the discourse of technology use offered the facilitators starting points on which to ground, build and modify their instruction. In addition, these demonstrated competencies shed light on alternative ways to assess initial identities with respect to a particular discourse. For example, instead of asking students to define “technology,” a task that seemed to leave participants guessing as to what exactly was being asked of them, one might choose to carefully observe and debrief urban youths’ self-selected activities during free time with the Internet. In other words, engaging learners with authentic tools and practices of the discourse would likely prove more informative than a more peripheral task such as the ability to define a given word out of context.

(2) *Decreasing perceived “social distance.”* Using the literature of urban science teacher preparation (e.g., Weiner 1993), urban science education (e.g., Tobin 2005) and near peer modeling (e.g., Murphey and Arao 2001), this study and my response highlight the importance of considering how the experience might be strengthened to the benefit of both students and teachers by actively seeking to decrease the perceived “social distance” between the two groups. First, when choosing facilitators for an initiative that has a primary objective of nurturing the identity development of predominantly urban young women (as in this case), a promising strategy might be to recruit facilitators who share as much in common with the learners as possible. In other words, instead of hiring six White males from the suburbs (as was done), directors of such an initiative might consider employing six Black females from the city. Especially when the facilitators are not professional educators, these commonalities could help both groups (1) use language and culture to interact more effectively; (2) more easily perceive and understand the cultural dispositions that the other group is drawing upon as valuable resources; (3) engage in necessary reorganization more efficiently when needed; and (4) facilitate the effectiveness of near peer modeling as students can more readily see similarities between themselves and their mentors. In any case, the teachers hired will be different from the students, and thus *explicit* support to help both groups develop understandings of commonalities may help both groups realize some of the same benefits listed above more quickly and easily than the participants in this study did.

(3) *Thoughtfully supporting process and outcome.* This work highlights the need for and possible ways to support both the youth facilitators and the urban students in the *process* as well as the *outcome* of a designed learning program. DeGennaro and Brown’s study highlights the importance of bridging before broadening. ‘Bridging affordances,’ from a

school's perspective, involve finding 'ways of bringing the powerful elements of day-to-day life that exist beyond school into school in meaningful ways,' (Bouillion and Gomez 2001, p. 879). In contrast, I have used 'broadening affordances' to refer to *expanding* the repertoire of student experiences through supported access to unfamiliar contexts, tools, relationships, learning opportunities (Luehmann and Markowitz 2007). This study makes clear what we know to be true (both grounded in a constructivist epistemology and through our everyday experiences with the world): learners needed to begin by bringing their histories and cultural resources to their learning in a way and place that felt safe: in other words, bridging must occur before broadening. In Alsop's (2006) and Gee's (1996) language, we need to scaffold learners' entry into their borderland discourses before they can effectively develop as central participants within a new discourse.

In addition, DeGennaro and Brown's study illuminates the need to bridge *through listening* to individual voices. It was not enough to create a desired learning outcome that would *appear* to be relevant to students' lives (i.e., create a web page for an occupation you might be interested in pursuing). As program directors (the initial instructional designers) had little to no knowledge of the specific youth who would be involved in this program, it was not immediately clear to them that these middle school students might not be interested in or (sufficiently) motivated by future employment opportunities alone. It was not until the youth facilitators *actively listened* to their students that they were able to effectively bridge students' existing identities with the desired learning and identity work. This finding emphasizes the need to support out-of-school facilitators in the process of working with their students to first understand students' interests, skills and understandings (*listening or engaging directly with the individual learners*) before facilitators are able to effectively contribute to the broadening of students' identities.

(4) *Considering connections with school.* Learning experiences that are explicitly linked to and associated with institutional urban schooling could have both (1) *negative effects* in that (a) students who have damaged academic identities may choose not to engage, as well as (b) teachers who have only experienced a transmission-model of teaching may have difficulty imagining a different, student-centered model of science teaching and learning; and (2) *positive effects* in that these experiences could invoke, and thus make available for development and transformation, these same academic identities (Luehmann and Markowitz 2007). Barton and Yang (2000) tell a compelling story of Miguel, an urban student and accomplished herpetologist, whose science interests, identity and expertise were never acknowledged or incorporated in the classroom—leaving a damaged academic identity in science that likely contributed significantly to a life of extreme poverty and struggle. This case study is one example of a very costly missed opportunity to connect and capitalize on informal science experiences and identities in institutional schooling. As successful non-traditional learning experiences such as this technology course could effectively support "repair work" and thus contribute positively to urban youths' identities as learners, it appears important to thoughtfully help students see and make the connections between this learning and that of institutional schooling as a way to give them access to what Barton and Yang refer to as "the culture of power" and thus help them reap additional important benefits.

Conclusion

The purpose of this response was to foreground the role of context in DeGennaro and Brown's study of the interactions between culture and agency in the identity development

of urban youth. *Context* was considered with respect to (1) the *activity structures* before and after the reorganization that occurred during the course as well as (2) the *nontraditional, out-of-school setting* which contributed to the accessibility of various identity resources as well as to participants' abilities to reorganize when the initial activity structure was not meeting either group's learning needs. As we work to make science education more accessible and equitable by specifically targeting the learning needs of urban students, it is essential to carefully consider the construction and organization of context so as to create opportunities for agency and expression in which both urban teachers and students, as learners, are supported in understanding, valuing and respecting students' cultural dispositions as valuable educational resources. As was certainly the case in this study, Tobin's (2006) observation makes clear the importance of considering both teachers *and* students as learners in this process:

Although students create reservoirs of capital through active participation in their lifeworlds, most of their teachers have had very different life histories and the capital they have developed and experienced is significantly different to that of their students (p. 221).

Carefully constructed contexts can afford participants as learners (urban students *and* teachers) opportunities to access rich identity resources (not typically available in traditional school contexts) including, but not limited to, the opportunity to exercise agency that allows participants to reorganize their learning context and enacted culture as needed.

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