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Not just a blip in someone's life: integrating brokering practices into out-of-school programming as a means of supporting and expanding youth futures

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Abstract

Purpose – This article makes a case for the importance of brokering future learning opportunities to youth as a programmatic goal for informal learning organizations. Such brokering entails engaging in practices that connect youth to events, programs, internships, individuals and institutions related to their interests to support them beyond the window of a specific program or event. Brokering is especially critical for youth who are new to an area of interest: it helps them develop both a baseline understanding of the information landscape and a social network that will respond to their needs as they pursue various goals. The paper aims to describe three critical levers for brokering well in informal settings: creating learning environments that allow trust to form between youth and educators and enable educators to develop an understanding of a young person's interests, needs and goals; attending to a young person's tendency (or not) to reach out to educators after a program is over to solicit assistance; and enabling potential brokers to efficiently locate appropriate future learning opportunities for each young person who approaches them. The authors also include a set of program practices for providers who wish to increase their brokering impact, as well as recommendations geared primarily toward organization leaders. The authors hope that this paper brings clarity and enhanced significance to the practice of brokering as a strategy to support youth pathways toward meaningful futures.

Design/methodology/approach – Insights presented here are the result of a participatory knowledge building and sharing process with a community of after-school providers known as the Mozilla Hive NYC Learning Network. The topic of discussion was how these providers might continue to support young people in their intensive project-based programs after the program was over. The authors of this article, acting as embedded research partners to Hive NYC, contributed insights to these discussions based on ethnographic fieldwork and case studies of high-school-age youth in the Hive NYC context.

Findings – The authors articulate a set of brokering practices and a conceptual model that communicates how brokering might lead to valued long-term outcomes for youth, including increased social capital.

Originality/value – The intent is that information and perspectives from this article will inform youth-serving practice and serve as a catalyst for further conversations and activities geared toward promoting youth pathways of learning and identity development.

Keywords Professional development, Brokering, Cross-setting learning, Interest-driven learning, Youth pathways

Paper type Case study

We're putting all of this time into these activity programs that have to be short-lived, by their resource nature. But what are we doing to make sure that this isn't just a blip in someone's life? Can it be part of a sustainable learning path?

– Program educator, 2/3/2014

This paper sheds light on a concern that may feel familiar to many out-of-school educators: how do we ensure that once a program is over, youth will be able to continue building their skills and identities in meaningful ways? This is an especially important concern for youth who are new to an interest and do not have much insight into the practice or relationships with individuals who can help them further their learning. To address this challenge, we

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discuss how a programmatic focus on brokering future learning opportunities might serve as an effective strategy to make a more long-term impact on youth futures. By learning opportunities, we mean events, programs, internships, individuals and institutions that will support youth in continuing their learning in a given area. We argue that brokering is an essential way to help young people develop, over time, a supportive network of adults and peers that are connected to and have knowledge of future learning opportunities.

The main ideas in this article were co-developed with the Mozilla Hive NYC Learning Network (hivenyc.org), a community of over 70 youth-serving organizations in New York City that provide innovative technology-based STEM, arts and social justice programming to youth. In a year-long participatory process, we, as embedded[1] research partners with Hive NYC, facilitated discussions with Hive members about ways to promote interest-driven learning and help youth develop identities as digital media makers. Hive NYC programs target youth who are interested in digital-media-making fields and aim to either introduce or deepen participants' knowledge of a digital-media-making practice. Programs strive to help young people use digital and online tools to develop twenty-first-century literacies and empowered civic identities. Hive NYC programs have targeted a wide range of activities and topics, including the design and development of social activism games and location-based mobile applications that illuminate the historical significance of specific urban locales and *vox populi* radio podcasting. The Hive NYC network is committed to reaching youth from low-income and non-dominant communities (Gutiérrez *et al.*, 2009), a commitment that reflects a deeply held value of many individual member organizations that preceded the creation of the network.

A key insight that emerged from our discussions was the importance of brokering as an educator practice that can connect youth to valued learning opportunities and a circle of individuals and institutions that may help them with their goals. We also identified issues that might make brokering difficult. For example, although the interactions that occur as part of youth development programming undoubtedly lead to relationships of varying degrees of closeness, Hive members recognized that they lacked a formalized way to maintain those relationships and cultivate them into something more meaningful and longer lasting. To capture this and similar challenges, the authors engaged the Hive community in a participatory process aimed at developing a white paper (Santo *et al.*, 2015). In the course of this process, we developed a greater awareness of these challenges, strategies for addressing them and for reflecting on how well and for whom educators are brokering opportunities (Ching *et al.*, 2015).

This article recasts the material from that white paper for a wider audience of informal educators. To illustrate these ideas, we offer examples from the Hive context, along with case study descriptions. It is inherently challenging to use short-lived experiences to help youth in long-term ways; we explain how brokering future learning opportunities can help educators address this challenge. We offer a concrete set of brokering practices that we have tailored to the context of after-school programs, along with a conceptual model that highlights dimensions of successful brokering. We close the article with a set of recommendations that organizations can adopt to increase the brokering capacity of their youth programs.

Methodology

This paper presents insights that emerged from a series of discussions and knowledge-sharing activities that our research team facilitated with members of the Mozilla Hive NYC Learning Network. These activities included a full-day design charrette meeting in the summer of 2014, during which participants discussed issues and challenges related to supporting long-term, interest-driven pathways. Throughout Hive NYC's history, the community has used the notion of an "interest-driven pathway" to connote a pedagogical value for providing youth with opportunities to learn things that are personally meaningful to them and supporting young people in their pursuit of their goals that require extended engagement or persistence across multiple learning contexts, including home, school,

community organizations and religious centers (Barron, 2004, 2006). The “pathways” metaphor compels us to consider how young people’s learning experiences connect to or build upon one another, including the possibility of integrating these learning experiences with academic or career plans. Brokering emerged as a key way to provide more “pathway experiences” for all Hive youth, especially those from non-dominant communities. Following the summer charrette meeting, beginning in the fall of 2014, the first and second authors facilitated discussions in the Hive community about how the network could more effectively broker opportunities to its youth and worked with members to formalize our collective understandings and definition of brokering as a promising youth-development practice. Many of the findings in this paper are based on those community conversations.

These participatory sense-making conversations were informed by the first and second authors’ ongoing ethnographic fieldwork between 2013 and 2015. We participated as members of this community, conducted participant observation of after-school programs and interviewed Hive educators and youth. As part of that work, we developed biographic case studies (Barron, 2015; Merriam, 1998) of eight high school students and recent high school graduates, focusing on their experiences during the program and 6-12 months afterward. We asked them about the other places where they engaged in similar learning activities and the individuals involved in their learning. Our goal was to describe each person’s learning ecology (Barron, 2004, 2006), comprising the people, places and resources the young person had access to; also important was the way those three components changed and what those changes meant for the young person’s ongoing learning and development. This article presents excerpts drawn from the more comprehensive case studies we developed as part of our ongoing research. The first case highlights some of the brokering practices that Hive educators engaged in, and the second one illustrates how our conceptual model of brokering applies to the experience of a youth participant.

Framing the problem: how do we continue to support youth beyond the window of our programs?

Like adults, youth learn in a variety of settings that include not just school but also home and various community settings, such as libraries, after-school organizations and religious institutions. Learning scientist Brigid Barron (2004, 2006) captured this reality with her concept of learning ecologies. Barron also highlights youth’s roles as drivers of their learning activities – they actively pursue various learning goals based in part on their assessment of available resources and their learning history.

Researchers have only recently come to understand learning as a cross-setting phenomenon (Barron *et al.*, 2014; Bricker and Bell, 2014; Bricker *et al.*, 2010; Crowley and Jacobs, 2002; Goldman and Booker, 2009; Ito *et al.*, 2009; Lareau, 2011; Moll *et al.*, 1992) and have yet to articulate a theory of action aimed at strengthening or promoting learning that happens across settings. However, it is clear that informal learning settings such as after-school programs are critical places within a young person’s learning ecology. In after-school programs, youth have the opportunity to delve deeply into an interest in a way that they are not usually able to at school. Furthermore, program staff members often have strong knowledge in the interest area, as well as connections to individuals and institutions that they can leverage on the young person’s behalf.

As an example drawn from Hive NYC programs, we observed in the ways in which youth engaged with “teaching artists” – digital media professionals hired on a freelance basis to provide specialized instruction[2]. Youth talked with teaching artists about their occupations and asked for advice and recommendations. They valued teaching artists and other staff members for their specialized skill-building knowledge, which helped them transform their ideas into working artifacts and clarified or broadened their understanding of the professional field connected to their interests. Teaching artists were part of the community of practice that youth wanted to join and provided youth with a sense that they,

too, belonged to that community. For example, one 16-year-old we talked to indicated that he found teaching artists' emotional support especially heartening, because they were working game designers themselves:

[. . .] they both make a living off of making games. So, they know, and they told me that I can do it. People do it. It's possible. They're not the only people in the world doing it. That's the only thing that they do to make money. And that's always what I've wanted to do, for a long, long time now.

As these comments suggest, young people's appreciation of positive positioning (Davies and Harré, 1990; Harré and Van Lagenhove, 1991) was influenced by the young person's appraisal of the positioner, and teaching artists ranked highly. In response to youth's enthusiasm, teaching artists shared their contact information and responded to questions outside of program time. Overall, we observed many ways in which out-of-school time organizations and the programs they provided could serve as vital sites of brokering as a means to promote learning across settings for youth.

In practice, however, organizations face key challenges in their efforts to broker opportunities well. Hive NYC's teaching artists and program staff found it challenging, for example, to maintain relationships with youth after a program ended. Youth and adults often did not share any sort of common institutional affiliation or other mechanism that would support the strengthening of these somewhat tenuous ties and early friendships. Programs held in school spaces give participants an ongoing institutional tie that enables continued interaction and relationship development. Hive members, however, often held programs at their own institutions[3] and recruited youth through school visits and online and word-of-mouth channels. As a result, program participants came from different schools and communities and so lacked institutional support for continued interaction.

Hive NYC's organization-based model has its advantages: it gives young people access to a learning opportunity related to their interest that may not be available at their particular school; it may attract youth who have negative associations with school-based opportunities; and it raises the profile of that organization as a valued community resource for the young people and their families who live there. However, this model can also present challenges for youth and educators around building long-term relationships. Youth may not naturally come into contact again with any Hive educators; continued interaction depends on either the young person or an adult making some sort of effort[4]. As a result, social ties that young people formed with peers and educators during a program – as positive as they were during the course of the program – often withered away after the program ended.

Because we developed case studies of youth activity both during and after their participation in Hive programs, we have been able to document this loss of relationships, a phenomenon we characterize as a "post-program slump in support" (Ching *et al.*, 2014). We show that this slump in support had unfortunate consequences for young people's access to opportunities and experiences and, in some cases, for their emotional, intellectual and personal growth. The post-program slump in support was especially problematic for youth who were new to an interest and who no longer had connections to individuals with knowledge and resources related to their digital-media-making interest (Ching, 2016). Overall, our findings indicate both a need and an opportunity to enhance the brokering potential of out-of-school organizations. By institutionalizing brokering practices, out-of-school programs can help young people gain continued access to valued forms of support for their interest-driven learning and identity-building goals.

Building youth social capital: how brokering can help

This issue of a person's access to individuals who can help their with their goals may be described in sociological terms as their social capital: the "resources embedded in social relations and social structure which can be mobilized when an actor wishes to increase the

likelihood of success in purposive actions” (Lin, 2002, p. 24). Schwartz *et al.* (2015) add that these relationships “provide access to information, opportunities, and material resources”.

Not surprisingly, youth who have more robust and supportive social networks are more successful at accessing social and material resources to meet their needs, compared with youth whose networks are less supportive. We also know that the social networks of different socioeconomic groups may offer different levels of supportive capacity. According to education sociologist Stanton-Salazar (2001, p. 105), middle-class individuals tend to have “cosmopolitan networks” featuring diverse and plentiful connections to other similarly connected individuals. These networks enable “smooth access to the mainstream marketplace where privileges, institutional resources, opportunities for leisure, recreation, career mobility, and political empowerment are abundant”. So-called “working-class networks”, by contrast, are likely to be more “bounded”; that is, smaller, more homogeneous and made up of other working-class individuals; as a result, they are more limited in their potential to help an individual engage with mainstream institutional spheres.

Differences in network composition can affect the aid that a network can offer its members. Sociologist Lew (2006) compared first-generation Korean–American students from middle-class families who were attending a competitive, academically rigorous high school with high school dropouts from poorer families. Both groups of students used their peer networks for support and exchange of helpful information. But the peer networks of middle-class youth included young people who had connections to important institutional agents and gatekeepers, whereas poorer youth were primarily connected to other low-income youth who had also dropped out of school. As a result, there were striking differences in the kinds of support that each peer network provided. Students from middle-class families shared information about the college admissions process and SAT prep centers, whereas high school dropouts shared opportunities related to minimum-wage jobs, military service and GED programs. Studies such as this underscore the importance of social networks in determining a young person’s potential outcomes.

This body of research, including the present study, speaks to a need to ensure that youth lives are infused with individuals who can provide instrumental support in the form of knowledge and resources to propel youth forward in their endeavors in concrete ways. In response to this need, which we see as affecting many youth development contexts, we suggest that after-school programs focus on brokering future learning opportunities to help young people continue to engage with their interests. Brokering may also help young people develop the kind of social network that will be important for any future endeavor. In the next section, we delve more deeply into the concept of brokering.

Core elements of brokering: people, learning opportunities and practices

Although the term brokering may conjure up images of contract negotiations (i.e. “brokering a deal”), social scientists have adopted this term to signify one person’s act of providing resources or helpful services to another. For example, Cooper (2014) defines cultural brokers as individuals who “provide resources for youth in bridging across their cultural worlds in ways that reduce educational inequities, such as when a teacher links immigrant parents’ skills in sewing in teaching geometry to their adolescents (Civil and Bernier, 2006), or when a religious leader supports immigrant students developing both college and cultural identities by keeping their home language” (Su, 2008, p. 172). Others have discussed language brokering, which takes place when an individual (often a child of immigrant parents) translates or interprets speech or text for another, and knowledge brokering, which takes place when an individual provides connections to information or sources of information. Our understanding of brokering builds on the work of Barron *et al.* (2009, p. 64), who describe parents acting as learning brokers by helping their children develop technical fluency; parents broker their child’s learning when they seek “learning opportunities for [the] child by networking, searching the Internet, talking to other parents,

and using other sources of information”. Although Barron and colleagues focus on parents, we discuss how informal educators may act as learning brokers.

Who can broker?

Family adults, non-family adults and peers can play brokering roles. Given our focus on the informal learning context, we have identified a number of factors that relate to successful brokering by program adults and peers. For example, youth may be more likely to pay attention to and take advantage of learning opportunities that are recommended by individuals whom the young person trusts and perceives as being knowledgeable in the area of interest that the opportunity is linked to. It also helps if a recognized and well-regarded organization is attached to the opportunity or if the opportunity involves tangible benefits such as a stipend, school credit or a line on a resume. Ultimately, the opportunity must seem interesting and of value to the young person – numerous educators reported difficulties around “selling” a young person on an opportunity.

What may be brokered to youth?

There is great diversity in the opportunities and resources that trusted adults may present to youth. As a general guideline, we maintain that adults may nurture a youth’s interests through a wide variety of opportunities and resources that include experiences (programs, one-day events, classes, internships and fellowships); social connections (mentors, institutional gatekeepers and collaborative peers); institutions (colleges, companies and organizations); and information sources (websites, books and how-to guides). We assume that it is a combination of opportunities, both large and small, that creates a robust pathway for young people.

What does brokering look like?

To clarify the important concept of brokering, we provide a set of brokering practices (Table I) that Hive NYC members described during one of our community meetings. These practices enable adults to maximize interactions with youth during program sessions and during critical time points such as the period when a program is winding down and the weeks following the end of a program. As this list of practices indicates, brokering requires forethought, planning, knowledge of youth participants and explicit action. One group of Hive members offered this succinct recommendation: “Think about after [. . .] *before*”. We turn next to a vignette that illustrates how program leaders might integrate many of these

Table I Hive NYC community-derived brokering practices

<i>During a program</i>	<i>After a program</i>
<p><i>At any time. . .</i> Organize field trips to new settings to meet new people and institutions Share information about any current or future related events (conferences, lectures, etc.) Help youth see how program activity can be connected to school activities or career or school goals Provide speaking opportunities for youth to present or share their projects Consider ways to allow youth to join the program after the start date Help youth develop tools for seeking mentorship</p>	<p><i>Toward the end. . .</i> Help youth develop a next-steps plan identifying what they would like to do next Help youth apply or register for a future opportunity Offer “leveling-up” opportunities] (e.g., youth could co-teach the program or become a “student resident”). Possibly base this on passion, in addition to (or instead of) skill level Be specific about the likelihood that your program will be offered again Write a “parting words” blurb that highlights youth’s accomplishments and strengths. Share the blurb with youth and their families and teachers</p>
	<p><i>Periodically. . .</i> Check in with former youth participants periodically. Let them know you are interested in their activities Schedule reunions with all youth who participated in a particular program Ask former participants to recruit their friends and siblings into the program Share “program stuff” (i.e., photos, videos, program code, instructional handouts, etc.) with participants Post photos and videos of student work and program activity to an online gallery</p>

practices into a single program to promote youth identities as game designers. Engaging in these activities helped youth gain a deeper awareness of not only skills and practices but also the people and places involved in game design.

Case study number 1: brokering practices in a Hive NYC after-school program

First person style[5] is a five-month-long after-school program offered by the education department of a creative new media arts atelier called Art+Tech. The program's curriculum, which was developed to help high-school-age youth explore less mainstream aspects of game design, combines practices of game design, physical computing, programming and e-textiles. For example, in one instantiation offered during the Winter of 2014, high school youth learned how to design and code their own games using the Unity3D game engine, create a custom game controller and link the game and the controller through the open-source Flora microcontroller. The program staff included Art+Tech's education director, Vanessa, who served as the facilitator of the program, and two digital media professionals who were hired to teach the content of the program (one of them was also involved in creating the initial curriculum). Here, we list some of the brokering practices that Vanessa integrated into the program, many of which served a wider purpose than just brokering. Vanessa engaged in these brokering practices in an effort to reach a diverse population of youth and support youth participants' continued exploration and engagement. Five youth participants and two youth mentors completed the program we observed. Six of the youth were male, and all were from non-dominant backgrounds.

Offering hands-on workshops in distributed locations to connect youth to the larger program. In addition to presenting at various high schools and distributing information about the program on e-mail and regular mailing lists, Vanessa organized two-day workshops, led by teaching artists, at a youth-facing organization in each of New York City's five boroughs. She designed the workshop as an activity that would represent the longer program in a truncated form. For example, instead of designing a complicated game controller, youth decorated a pair of sturdy black gloves using a glue gun, foam paper and sharpies; and instead of coding a game from scratch, youth "modded[6]" an existing game by making small changes to the code. These constraints worked well: by the end of the two-day period, youth gained a sense of accomplishment and a better sense of what the program's activities would feel like. The workshop also signaled to youth that the longer program would teach them to use authentic game design tools and that "real" game design professionals would be teaching the content.

Although Vanessa primarily used this strategy to recruit participants, it served a brokering function as well. Because she held these workshops in youth-facing locations (a school, two museums and two community-based organizations, including Art+Tech), she was able to attract youth who might know and trust a certain organization in their neighborhood and expose them to another, similar institution (i.e. Art+Tech). Also, some youth may have been tentative about engaging in out-of-school activities, and many may never have engaged in game design. The hands-on nature of the workshop helped these youth feel more comfortable about signing up for the longer, more intensive program. Thus, these workshops may have served as far more effective bridges to the program than more traditional recruiting methods such as posting program flyers.

Providing youth program alumni with "leveling-up" opportunities, such as positioning them to act as youth mentors. Vanessa invited two teens who had previously engaged with the content of the program to join Art+Tech as student residents and act as youth mentors during the program. Youth participants viewed them as knowledgeable peers with knowledge and perspectives from which they could benefit. Also, after the program had ended, we found that participants were more likely to reach out to these youth mentors than program-affiliated adults for guidance and tips. The youth mentors also brought up conversational topics that felt timely and useful to youth participants; for example, one participant mentioned receiving helpful advice about developing a portfolio for his college

application. Enlisting youth as mentors in a program was a powerful brokering strategy because it helped youth participants develop peer relationships that they were more comfortable maintaining after the program ended. It also gave the youth mentors a new learning opportunity that offered institutional affiliation and access to varied forms of support connected to that institution.

Organizing field trips. During a week when the teaching artists were scheduled to go out of town to a games conference, Vanessa organized a field trip to a nearby university that offered bachelor's and master's of Fine Arts degrees in game design. Youth were introduced to the department's video game library and tested a graduate student's game prototype, giving him their detailed impressions while he dutifully took notes. Program participants peered at game design assignments that had been taped to the walls and admired a large white board that someone had covered with lines of code. They crowded around the office of the department administrator, who reminded them that it was important to not only play a lot of video games but also think critically about the games they played and develop game prototypes. A graduate student who had formerly been an economist then waved them over to show them his augmented-reality-game-based on the classic game theory concept "the prisoner's dilemma". He provided a thorough explanation of his game and, after answering all their questions, pointed to his e-mail address on a nearby white board and encouraged everyone to take a photo of his e-mail address and keep in touch (Plate 1). After the tour, some youth stayed behind to attend a free lecture by a visiting game designer.

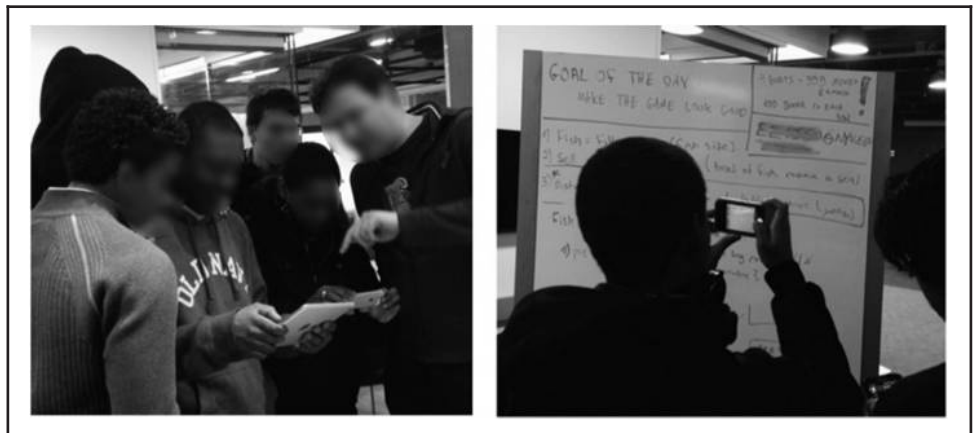
This field trip gave youth opportunities to learn more about the practice of game design and meet bona fide members of the game design community. It also introduced youth to existing institutional support systems that aligned with their goals. Said one 16-year-old after the visit:

Every time I thought about [pursuing game design] and I was looking at college textbooks, it would always be under computer technology or something like that, when specifically, I wanted game design. Then I found this amazing school in my state that I can go to that is specifically for game design. And I was like, "This is too perfect".

It should also be noted that this kind of support requires providers who have the appropriate social capital. Vanessa knew about the university and also had a graduate student contact there that could act as a knowledgeable guide.

Introducing youth to authentic events and communities of practice. Vanessa and the teaching artists also apprised youth of relevant events and opportunities. For example, one day, they told program participants about an upcoming conference dedicated to celebrating less mainstream, more experimental game projects focused on diversity and inclusion. This event was an especially important opportunity because it offered youth a

Plate 1



chance to meet game design professionals who did not fit the dominant “white and male” stereotype. A few youth showed up to the conference and attended lectures and participated in the workshops.

Vanessa also registered the program participants for a city-wide youth technology showcase and competition, where youth presented their games to an audience of over 150 peers and adults, including digital media professionals. Youth received constructive critique and feedback on their own artifacts and learned about the accomplishments of other youth in attendance.

Both the conference and the showcase gave youth opportunities to engage in authentic ways with the larger game design community. By brokering them to program participants, program leaders enabled youth to connect to and learn from other game designers in the field and present their own work to a wider audience.

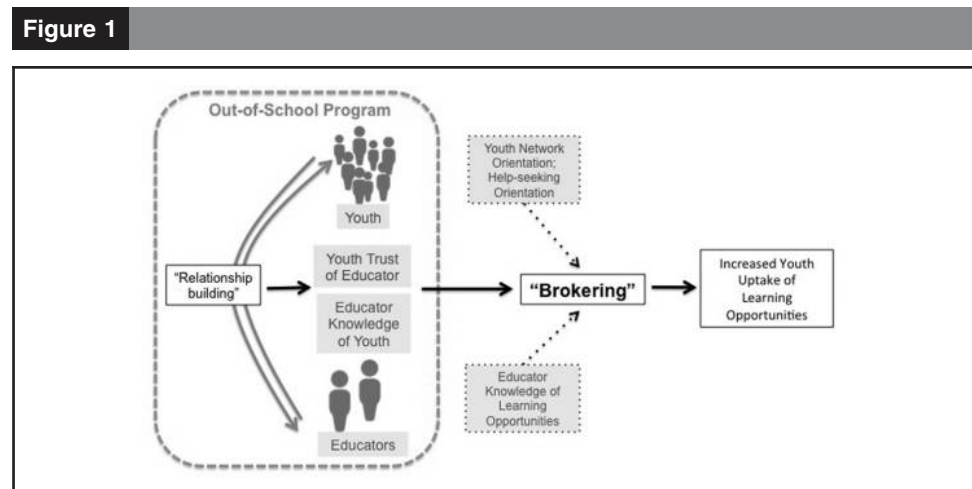
Holding a post-program reunion. About three months after the end of the program, Vanessa organized a reunion for all program participants. Although not everyone was able to make it, the youth who did attend enjoyed seeing one another again and shared useful information about college applications and software design tools. This was an effective way to help youth stay in touch with one another and encourage relationship building. Many youth who came had not been in touch with the other youth or adults involved with the program since it had ended.

As an activity context for learning and identity development, Hive programs such as First Person Style offered rich sources of diverse support that enabled youth to improve their understanding of the craft and profession of digital media making. Over the course of a program, youth interacted with guest speakers, teaching artists and other individuals, and these interactions introduced youth to additional opportunities and resources that they could access down the road.

Conceptual model of brokering

Having looked at what these practices look like on the ground in an out-of-school organization, we now turn to a theoretical treatment of the factors at play when educators attempt to engage in brokering practices, such as the ones described above. [Figure 1](#) presents a model of how brokering may lead to increased youth uptake of learning opportunities, an important aspect of social capital development that can lead to valued personal, academic, professional and civic outcomes.

Key to the brokering process is the relationship building that typically occurs between educators and youth in out-of-school programs. Hive members’ programs are often structured in ways that allow youth and educators to get to know one another through unstructured time,



hanging out and project work. These hanging-out periods are important because they enable educators to get to know – and develop – youth’s passions and interests. During programs, providers and youth had a lot of opportunities to interact, both when providers presented information to the whole group and when they helped youth individually. The period when youth and providers were settling in and waiting for the program to start also represented a significant time when youth and providers could mingle and chat in a casual way. Providers also mentioned the post-program routine – taking the elevator down to the exit together or walking to the subway – as times when more personal conversations occurred and providers might learn more details about a young person, including aspects of their home life, impressions of teachers as school and other hobbies or activities. We observed trust and norms naturally emerge in these contexts as youth developed skills, got feedback from others and found inspiration in conversations with fellow peers and adults.

We postulate that the environment these programs afford provides a promising context for two important outcomes necessary for effective brokering: the development of trusting, caring relationships between youth and educators (i.e. *youth trust of educator*) and a better understanding by educators of youths’ interests and needs (i.e. *educator knowledge of youth*). These two factors, which we hypothesize may increase as part of the process of relationship building between youth and educator, have a bidirectional influence on each other. Knowing more about a young person – their hopes and dreams and the values of the community they live in, for example – often goes hand in hand with building trust. This “knowing” also makes it more likely that educators will suggest opportunities that are a good fit – aligned with a youth’s interest and reasonably accessible (Acholonu *et al.*, 2015). When youth trust the educator’s opinions and recommendations (an assessment that is influenced by the kinds of opportunities the educator raises), they will be more likely to follow up on those opinions and recommendations. This interactional process enables successful brokering, which leads to increased youth engagement in learning opportunities.

Two supporting components also play critical roles in the brokering process. To effectively broker relevant opportunities, educators must have *knowledge of learning opportunities*. Educators who play a brokering role must have access to information about future learning opportunities. Castrechini *et al.* (2011) found that lack of youth awareness of available opportunities was one of the primary reasons underlying low engagement in youth opportunities in a particularly opportunity-rich region. The youth they surveyed also reported that individuals (i.e. friends, families and teachers) in their networks served as primary sources of such information, as opposed to media channels and flyers. Thus, educators can play a vital role in helping young people learn about future learning opportunities. To be effective in this role, however, educators need access to information about available opportunities.

Hive members indicated to us that the information ecology regarding future learning opportunities felt somewhat fragmented. Within the Hive NYC context, educators reported that they sometimes felt that there was simultaneously too much and not enough information: e-mail lists and newsletters regularly announced upcoming programs, but in moments when an educator might be looking to broker opportunities, there was no central place that collected this information. Opportunities were announced through e-mail, social media, postings on Eventbrite and paper flyers and postcards given out at events and posted in schools. But, educators regularly told us that they lacked knowledge of the right opportunities – ones that aligned with their youths’ interests and that they trusted as being of high quality – at the right times, such as when a youth or parent was ready to take advantage of those opportunities. In short, the ability to broker well is served by making information about future learning opportunities more discoverable, an ongoing challenge for the informal learning field.

The final supporting factor concerned how a young person’s *network orientation* or *help-seeking orientation* may positively or negatively affect their ability to take up and navigate the opportunities brokered by high-resource individuals. “Network orientation” is a classic

concept that describes the attitudes and capacities that motivate an individual's relationship building (Barnes, 1972). Stanton-Salazar (2001, pp. 25-26) has introduced the term "help-seeking orientation" to address more specifically an "individual's developing proclivity (or disinclination) to resolve personal, academic, and family problems through the mobilization of relationships and networks (i.e. coping by seeking help)". A person's help-seeking orientation is a component or a visible instantiation of their wider network orientation.

This was a key barrier for the youth we studied. Youth with negative help-seeking orientations typically recognized the potential social capital of program-affiliated adults but felt that such individuals would likely not welcome further contact after a program was over. One 18-year-old said that she had wanted to reach out to two filmmaking teaching artists after the program to explore the possibility of obtaining an internship opportunity with them but in the end had been "too scared to ask". Researchers examining similar issues have identified cultural reasons why minority and first-generation college freshmen may not reach out to professors for help. They found that some youth lived in communities that valued self- and familial reliance, which made seeking support outside the family seem unnatural. Youth may also want to seek help but lack experience or guidance in doing so (Colin, 2001; Sánchez *et al.*, 2005). Berardi (2013) has described some young people's discomfort with communicating by e-mail; this discomfort makes it hard to connect with potential support providers. Stanton-Salazar (2001, p. 114) has described related scenarios involving resource providers in a school setting, observing that "Although teachers and counselors may see themselves as caring and as accessible to students, many have little awareness of the invisible wall of ambivalence and emotional discomfort that often keeps students from approaching them for help".

To situate our conceptual model for brokering, we present another vignette, this time focused on the experiences of a youth participant in another Hive game design program. The vignette describes how this young person's help-seeking orientation affected his ability to continue his involvement with game design after the Hive program was over. We also highlight instances that align with the important components of successful brokering described above.

Case study number 2: an illustration of our conceptual model of brokering

Cerebral was 18 years old and had just graduated from high school when he joined Ollie, a program designed to engage youth skateboarders from non-dominant urban communities in game design and programming activities. During Ollie, participants designed and developed technology-enhanced physical skateboarding games to be played in a skate park. Cerebral heard about the program from a friend of his in the skateboarding community and appreciated the offer of a stipend for participating; the location of the program in Manhattan would also give him a good "excuse" to come into the city and go skate afterwards at a nearby park. Note that Cerebral's primary motivation to engage with the program was not based on the program's content; rather, at the start of Ollie, Cerebral made it known to that it was his lifelong goal to be a police detective and that he would be attending a four-year college with a well-respected criminal justice program in the fall. During the program, however, his interactions with Duncan, a successful and well-known game designer who had been hired to lead youth through the game-design process, raised a new possibility. Said Cerebral, "I started to realize that there was a science to [game design] [. . .] I didn't know this was something you can learn in school". Cerebral spent a lot of time interacting with Duncan, asking him questions and asking for his feedback on Cerebral's game design ideas. He began to think of Duncan as a helpful individual to whom he could go for information and support of his developing interest in game design (an example of a youth's increasing trust in an educator).

Duncan recognized Cerebral's interest and aptitude for game design (an example of an educator's increasing knowledge of a youth) and started to give him more information. Some of Duncan's suggestions did not sound feasible to Cerebral – for example, a

game-design program in the Bronx that was a significant distance from where Cerebral lived in south Brooklyn – an indication of the importance of educator knowledge of youth when it comes to brokering. Nevertheless, the bond between Duncan and Cerebral continued to grow, and toward the end of the program, Duncan pulled Cerebral aside, told him that he had “a head for game design”, said, “you can write me if you want and I’ll give you advice”, and gave him his business card.

A few months after Ollie ended, Cerebral wrote to Duncan for advice, and they chatted on the phone about his college plans; Cerebral had ended up taking a gap year and enrolling in a less expensive college so that he could take a wider variety of courses. He mentioned that his new college did not offer classes in game design, and Duncan assured him that he could major in computer science and use that knowledge to make games during his free time, advice that reflected what Duncan himself had done. Cerebral also started reading articles and watching YouTube videos about game design. Some of these were leads that Duncan had told him about; others he found on his own or encountered serendipitously through the site’s recommender engine. Accessing these resources made him more aware of the design behind game features such as the placement of visual elements on the screen. Said Cerebral:

I didn’t realize that the positions were done deliberately and had they been other places, it would be harder to play the game [. . .] The timer being in the middle so each player’s eyes don’t have to travel or they have to travel equal distance to check the time, and [how] the [health] bar drains inwards so that it’s closer to the timer so that when time is about to run out or you’re about to die, you can check it quickly with your eyes. I didn’t know all of that was done for that reason.

The following summer, when Cerebral heard that Ollie was being offered again and that Duncan had signed on to teach, he enthusiastically joined. Their relationship deepened: Cerebral told him what he had learned in the intervening year, and Duncan decided that Cerebral was ready to start thinking more critically about his ideas and his own design process. Said Duncan, “I became a little less generous with his kind of wild brainstorming [. . .] I was attempting to get him to really process things before volunteering them as a way of kind of cultivating a critical lens on what he was doing”.

Cerebral appeared extremely invested in learning how to program. He used his tablet’s camera feature to take screenshots of any code that was projected onto the screen during coding demonstrations so that he could copy the code into an emulator on his computer at home and play around with it. Cerebral told us, “This is actually the best notes that I’ve probably kept”. He used this strategy to learn the grammar of the coding language, using a trial-and-error approach to determine which parts of the code were adjustable and whether the adjustments he made lead to his expected outcome[7]. After the program, Cerebral and two friends who had also participated in the program started designing and developing a game using a free, online game-making platform. Overall, both Cerebral’s tinkering with code at home and his self-initiated game design project were both examples of engaging in a “self-sustaining learning process” (Barron *et al.*, 2014) that often signals a deeper commitment to an interest and a desire to develop greater competencies.

Despite Cerebral’s successful pursuit of his new interest in game design, he was tentative about staying in touch with adults from the program (i.e. exhibiting characteristics of a negative help-seeking orientation). When we discussed the prospect of keeping in touch with the program facilitators, Cerebral said:

I don’t know. It was like, why would they want to keep in touch with me? What would I even ask them – “How is it going?” Did I make enough of an impact on them for me to ask them how their life is? I just was like “Eh”. I was just another kid in the program, so I just didn’t think about doing it.

Cerebral seemed also to be unaware of the support these individuals provided, support that included both obtaining the resources necessary to offer the program multiple times

and hiring Duncan as a teaching artist for two of those program instances. In describing one of the program organizer's roles, Cerebral said:

I believe she's like one of the people that is like the head of this program. So, yes, she helps the program run. But me in particular, I don't think she does anything. I'm sure if I asked her a question, she would answer or something. I'm not saying she's not helpful, but she hasn't done anything because I've never really come to her for anything.

This is an important issue, because both program facilitators knew Cerebral well and were motivated to help him; also, like many Hive members, they have over the years developed deep knowledge of various relevant opportunities. Even though Cerebral would undoubtedly have benefited from their information and connections, he did not perceive them as part of his support network after the program was over.

Cerebral's story gives us reason to believe that although a negative help-seeking orientation may make it less likely that youth will reach out to individuals outside their inner circle, a focus on relationship building between youth and potential brokers may diminish that barrier. In explaining why he reached out to Duncan, Cerebral indicated that his trust in Duncan and Duncan's perceived ability to be helpful were significant factors. It was probably also important that Duncan had made a specific overture to Cerebral and had performed the professional practice of giving him a business card, thus according Cerebral the respect and status that he would have extended to another game design professional. Duncan also provided explicit permission to contact him and clear instructions regarding how to do so. Calarco (2011, 2012) has conjectured that students may not always be aware of or comfortable with "acceptable" ways to reach out for help from adults such as teachers. Judging from Cerebral's description of how Duncan had approached him, Duncan's encouragement seems to have included the specificity that Calarco recommends.

Recommendations

The intention of this paper was to establish the importance of brokering future learning opportunities to youth as a way to support their desires to continue engaging in certain interests. By connecting youth with various opportunities, educators help them develop relationships with individuals and institutions so that youth may have an array of options to turn to in meeting their needs. Youth who are new to an interest are most in need of help in developing both relationships with helpful individuals and a better understanding of the landscape of opportunities around them.

The recommendations below illustrate some ways that individual organizations and networks can promote brokering and youth social capital building. These recommendations are not exhaustive and should serve as a starting point for further consideration of useful ways to enable educators to broker future learning opportunities to youth. Many organizations already strive to emulate these practices amid competing pressures and time constraints; we hold such efforts in high regard and hope that we can continue to build upon and strengthen them.

When it comes to promoting brokering as a youth development practice, broader organizational priorities play a crucial role. Organizations both provide a context for relationship building and facilitate youths' introduction to high-resource individuals (i.e. educators, teaching artists, visiting guests, etc.). Based on our analysis, we offer the following recommendations to organizations in their efforts to successfully manage program staff and teaching artists and decide which skills to hone and what to prioritize in their engagement with youth:

- Ensure that program educators and teaching artists receive the guidance and resources they need to actively broker opportunities to youth. Youth development professionals are generally familiar with the value of relationship building and, to varying degrees, brokering learning opportunities. Other program staff, however, may be unfamiliar with these ideas. Many of the teaching artists in our study identified as digital media and technology professionals and were not familiar with general principles of

youth development. Because teaching artists often interact with youth closely during programs and represent a valuable connection for youth to certain professional futures, we recommend articulating to them the importance of brokering future learning opportunities, in addition to providing ongoing support and guidance throughout the course of the program.

- Consider integrating activities that support relationship building and brokering of future learning opportunities. [Table 1](#) summarizes common brokering practices that Hive educators enacted in their programs. We hope that bringing these practices together in one place will help educators experiment with new forms of brokering and expand their repertoire of brokering practices. Many of these activities require extra planning and time, which could affect other program goals, but we believe that this increased effort will support long-term outcomes that educators value.
- Consider how organizations might support a positive network orientation among youth. We recommend that organizations consider factors preventing all youth from developing meaningful relationships with resource providers. By facilitating such relationships, educators can empower youth to discover and take advantage of opportunities to explore or continue with an interest. In some cases, it may be necessary to help youth develop the social skills and capacity to approach resource providers. Because youth have different network orientations and help-seeking orientations, it may be important to discuss with them the importance of soliciting support from people who can provide valued opportunities, resources and references and to help them develop the skills and comfort to do so. Researchers at the Center for Evidence-Based Mentoring have produced relevant resources in this area, including a “youth-initiated mentoring” curriculum that speaks to exactly these needs ([Schwartz et al., 2013](#)).
- Create or broker leveling-up opportunities for youth. An important part of supporting youth pathways is linking young people to further opportunities, especially experiences that are slightly more challenging or offer more leadership responsibility. Vanessa, by tapping two youth to be student residents and serve as youth mentors during the First Person Style program, is a prime example of this. Several larger institutions in Hive NYC provide programmatic models worth examining – for example, New York Hall of Science and the Rubin Museum have “ladder programs” in which youth can start as program participants and then graduate to become interns and co-teachers.
- Designate a “brokering point person” on staff. As a means to coordinate information about relevant future learning opportunities, organizations might consider designating a staff person as a “brokering point person”. Depending on organizational capacity, a person in this position could take on responsibilities such as organizing and circulating information about learning opportunities that front-line educators can broker, running trainings on best practices for brokering, developing or facilitating internship-placement programs within the organization and maintaining a youth-facing outreach list for sharing opportunities.

Conclusion

To have a long-term and life-changing impact on youth, it is not enough to focus just on optimizing the learning that happens within particular programs and supportive spaces; we must also build bridges between these programs and spaces. Critical economic and social theorist [Sen's \(1992\)](#) concept of “freedom to pursue” highlights the crucial difference between an individual’s achievement – what she accomplishes – and her “freedom to achieve” – what her capabilities and resources enable her to accomplish. To create a more equitable society, we need to focus on this idea of “freedom to achieve” and expand the freedoms of individuals who are currently disenfranchised.

The practice of brokering represents a crucial opportunity to support youth in attaining long-term success by having the freedom to pursue and achieve personally-meaningful goals.

Increased social capital is clearly important for individual youth, but it may also be important for the communities of which youth are a part. Some researchers have suggested that programs that focus on building social capital among participating youth see not only stronger outcomes for youth but also positive changes at the community and city levels. [Calvert et al. \(2013\)](#) argue that strong youth programs “result in an upward spiral of social capital across the community”. As they explain:

Trust and productive relationships between youth and adults lead to expanded opportunities for youth development while building overall community capacity for civic engagement and community betterment [. . .]. Youth programs can intentionally develop social capital for youth as they tap into interpersonal and organizational networks, and youth programs can also be a location for the strengthening of social capital for an entire community (p. 3).

These scholars offer the compelling argument that when we focus on developing young people’s social capital, we may also be driving the development of productive social structures across communities and cities as a whole. To gain these benefits and help youth continue their engagement in an interest on their own terms, we must help youth develop robust social networks that are rich with future learning opportunities and equip adults and peers to play active roles in brokering those opportunities.

Notes

1. This embeddedness has naturally led us to adopt educators’ problems of practice as our areas of investigation.
2. A typical Hive program might involve a program facilitator – charged with organizational and logistical responsibilities of the program – and one or more teaching artists, who are responsible for teaching the technical content of the program. Program facilitators are usually employees of Hive organizations and as such may have more youth development expertise. For some programs, a Hive organization employee may assume the “teaching artist” role; in those cases, interactions with youth were similar to the ones we describe as occurring between youth and teaching artists in the main body of the article. Also, close relationships between program facilitators and youth did develop, but generally, youth valued such individuals in ways that were distinctly different from the value they attached to teaching artists.
3. Many also enact programming in schools as well.
4. Youth did tell us about attempts they had made to hang out outside of program time or to find each other on social networking sites or online gaming platforms. Also, program educators might support relationship building by offering the program again a year later and sharing this information with past participants. Another effective method is to schedule a program reunion; see Case study number 1.
5. All program names and organizations have been pseudonymized. Youth were invited to provide an alias, or a “fake name”, as one young person put it.
6. “Modding” refers to the practice of altering a video game.
7. Another teaching artist and programmer mentioned that this is a learning strategy that seasoned programmers are using with ever more frequency as the number of new languages that bear similarities to existing languages continue to proliferate.

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