HIVE
RESEARCH LAB

On-Ramps, Lane Changes, Detours and Destinations:
Building Connected Learning Pathways in Hive NYC
through Brokering Future Learning Opportunities

Hive Research Lab
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Preface

Since summer of 2013, Hive Research Lab (HRL), an applied research partner of Mozilla Hive NYC Learning Network, has been engaged in a range of activities that include both basic research and applied design activities geared toward advancing the community's collective understanding of how to support youth interest-driven learning pathways. Our activities have included developing case studies of high school students and recent high school graduates who participate in Hive network programs and events, leading consensus-building discussions during Hive community meetings and calls around youth pathway issues, facilitating the design of initiatives that target specific barriers to supporting youth pathways[1], and providing formative design research support to members[2].

In reviewing community members' accounts of successful examples of youth pathway support in the Hive, one youth development practice emerged as central—educator activity linking their youth to other programs and opportunities, a practice we call *brokering*. At the same time, it was evident that efforts around brokering future learning opportunities were often time-consuming and constrained by factors such as awareness of opportunities at any given moment. HRL used this understanding as a starting point for asking: What if we as a network were able to collectively and systematically think about the issues and opportunities around brokering future learning opportunities to our youth? How might that enhance our impact on young peoples' lives and on our abilities to address entrenched issues of equity, opportunity, and empowerment?

This white paper, representative of collective work between Hive Research Lab, Hive network members, and the administrators of the Hive NYC network[3], attempts to bring more clarity to the practice of brokering as a way to support youth pathways towards meaningful futures. In the fall of 2014, HRL facilitated discussions in the Hive community around how the network as a whole can more effectively broker opportunities to our youth, and worked with members to collectively formalize our collective understandings and definition of brokering as a promising youth development practice. Based on those community conversations, in this paper we articulate who are (or could be) learning opportunity brokers, how brokering is achieved, and some precise goals the Hive community could work towards. While many Hive educators already engage in brokering to some degree, our goal here is to bring more attention to what we do and what we can do to formalize this as a valued practice in our community. We aim to more actively give it consideration in a way that allows us to discover how to do it better as both individual educators but also as a collective. HRL facilitated many of these discussions and also attempted to connect our discussions to existing research whenever it seemed to be illustrative to do so. This paper represents the culmination of our collective knowledge building efforts and should be considered a product of joint research and action that emerged from the community as a whole.

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[1] See Lynn Casper's Thimble recap of the Youth Trajectories Design Charrette Meeting: http://mzl.la/1tJG69Z
[2] Current initiatives include: Hive Youth Meet-ups (events to encourage youth collaboration and awareness of programmatic opportunities offered by Hive NYC), Text Connect (SMS-based group communication tool), and a Hive Teen Mailing List pilot (mailing list targeting youth and their trusted brokers)
[3] See Appendix for the list of participants.

Introduction: Towards a 'Network for Learning'

When I first came to [Hive program], I was a little quiet because I didn't know what was going on, but when Duncan started talking about games, I just wanted to talk. He looked at me and noticed that I was really interested in this and I think he just saw that I really liked it and he just talked to me about it. At first he was like, "I see you're really interested in this stuff. Keep it up." Then towards the end of the program when he saw the game he was like, "If you need help and this is really what you want to do, here's my card." It had his email on it and his office number and I called him at his office and he gave me a list of all the types of programs and stuff that I could go to and learn…

I thought it was weird that he seemed to have some sort of faith in me. He seemed to believe that I could do it and I didn't really believe I could do it. I never thought of game design as a career. I just thought of it as games. I like to learn about games. And then I also felt like it was kind of real that it was something I could pursue.

- 'Cerebral,' Age 18, Hive NYC program participant, 7/28/14

One of the original guiding visions for the Mozilla Hive NYC Learning Network, a consortium of over 70 museums, libraries, and youth-serving community-based organizations, was to create a 'network for learning' for the city's youth. It suggested a Connected Learning ecosystem where youth may encounter a wide range of production-centered learning experiences and be supported by adults and peers in ways that could lead to future opportunities in personal, academic, professional, and civic realms (Ito et al., 2013; Kumpulainen & Sefton-Green, 2012). And it is a vision that requires educators and organizations to think beyond the bounds of their own institutions to consider how collective action at the level of networks can provide opportunities and address inequalities in a way that more isolated efforts cannot.

When discussing how youth might thrive in such an ecosystem—and what sort of interventions we can develop to help all youth do so—the idea of *pathways* has often come up as a useful metaphor that invites us to consider youths' 'learning lives' (Erstad & Sefton-Green, 2012) over time and across the many contexts (home, school, community organizations, religious centers, etc.) where learning may occur (Barron, 2004, 2006). While there are many different ways to productively conceptualize such pathways, in this paper we simply invoke pathways as a metaphor for thinking about ways to provide structure to youth experiences—how they might 'connect to' or 'build upon' one another and thus allow a young person to pursue goals that require extended engagement or persistence across multiple contexts and learning opportunities.

This paper sheds light on a familiar practice and concern among the Hive community and discusses how to amplify it so that the youth we serve in our programs gain valuable social, human, and cultural capital that will allow them to choose their futures. This necessitates a focus on ***brokering future learning opportunities*** as a key part of the youth development and relationship building Hive educators already engage in. When we broker, we:

- **Connect youth to meaningful future learning opportunities** including events, programs, internships, individuals and institutions that will support youth in continuing their interest-driven learning.
- **Enrich their social networks** with adults, peers, and institutions that are connected to/have knowledge of future learning opportunities.

Over time, and with the right guidance, our hope is that we can support our youth to develop robust social networks and an orientation towards using the contacts in their networks to advance their identities as learners, professionals, and citizens. We bring the following assumption to these goals:

To help youth continue their engagement in an interest on their own terms, we must help them develop robust social networks that are rich with future learning opportunities <u>and</u> equip adults and peers to play active roles in brokering those opportunities.

In the following pages, we describe what we mean by brokering, establish why we think it's important, give context around related research literature and provide recommendations around how to continue to build a 'network for learning'. In the following section, we define brokering from three perspectives: who brokers, what is brokered, and what brokering looks like in practice. Next, we bring in the concepts of *social capital* and *youth social networks*[4] as they relate to supporting youth pathways and show how brokering may help ensure that all youth—especially those from non-dominant and marginalized communities—are able to develop social capital and leverage it as a means to engage in future learning opportunities. We also discuss challenges to brokering, including how a young person's network orientation or help-seeking orientation may affect her ability to take up and navigate the opportunities brokered by high resource individuals. In the final section, we provide recommendations for how we might better support youth interest-driven pathways through brokering, both for individual organizations and Hive Learning Networks.

Core Elements of Brokering:
People, Practices, and Learning Opportunities

> *"I think it really is an interesting question that's important to be asking right now: 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?"*
> *- Hive NYC teaching artist, 2/3/14*

While the term *brokering* conjures up images of contract negotiations (i.e., "brokering a deal"), social scientists have adopted this term to signify resources or helpful services that one individual can provide 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 & 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*—when an individual (often children of immigrant parents) translates or interprets speech or text for another, and *knowledge brokering*—when an individual provides connections to information or sources of information. In the context of this conversation, we build off of Barron,

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[4] Social networks refers in this case to the array of relationships or social ties that youth have. Vickery (2014) calls them "offline social networks."
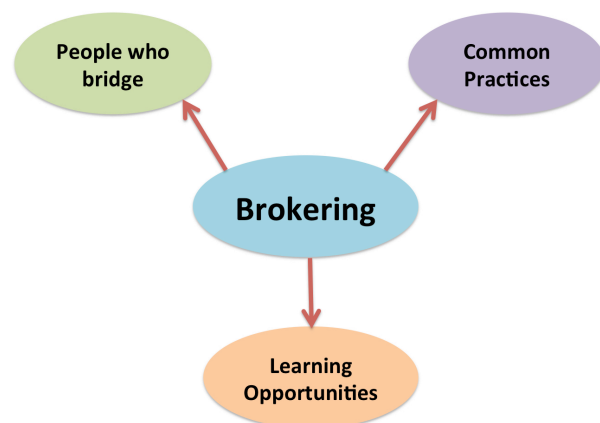
Martin, Takeuchi and Fithian (2009), who highlight how parents act as *learning brokers* in helping their children develop technical fluency, a role they describe as seeking "learning opportunities for child by networking, searching the Internet, talking to other parents, and using other sources of information" (p. 64). While Barron et al. focus in their study on parents, here we discuss how informal educators may act as learning brokers.

Common terminology related to 'broker' and 'brokering' used among the Hive community.
During discussions with members of the Hive community as well as youth, other related terms were mentioned. For the purposes of this paper, we will use *broker/brokering* because it is a concept well established in the research literature, though we encourage readers to adopt the language that feels most comfortable to them, their organizations and their communities.

Broker – Advisor, Agent, Coach, Connector, Guide, Information Intermediary, Mentor

Brokering – Bridging, Connecting, Guiding, Linking, Networking

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Brokering may be broken down into three core elements, namely the **people who broker**, **common practices around brokering,** and the **learning opportunities that get brokered**. We share these insights below.

People who broker. Family adults, non-family adults, and peers can all play brokering roles, but a number of factors are related to whether a given person will be an *effective* broker. First, youth are far more likely to pay attention to and take advantage of learning opportunities that are recommended by *adults and peers that youth trust*. Secondly, successful brokering depends on whether or not these individuals are able to *recommend opportunities that are appropriate and valued by young people*. Generally this requires having the opportunity to get to know youth and gaining a sense of what their interests are. Finally, successful brokering as a strategy for youth pathways requires the *participation of individuals with knowledge of opportunities and social networks that align with youths' interests and goals*. Many youth may not have connections to individuals with the knowledge and access to resources that are essential for continued engagement in an interest-driven learning pathway that may have been sparked through their participation in a Hive member program, and so developing and maintaining connections to high-resource people is key. While we've observed this to be the case with youth from families of diverse socioeconomic backgrounds, social capital research indicates that restricted access to certain types of knowledge about and access to 'mainstream' opportunities and resources can have particularly negative consequences among low-income youth of color (Stanton-Salazar, 2001). We will return to and expand upon these concepts later in the paper.

Common adult brokering practices. Brokering is a practice that depends upon and serves to strengthen relationships between youth and resourceful individuals. The opportunity or resource to be brokered also determines how that practice unfolds. For example, the way an educator might mention a useful website related to graphic design that an interested teen can check out looks very different from how she might provide information and support to pursue a new graphic design-related internship, or find a college program linked to

this interest.[5] Discussions with members of the Hive NYC community have surfaced a range of brokering practices that can happen across the life cycle of a program. We include them here (see Table 1) as a way to highlight and invite more discussion about both maximizing the time we have with youth during programs and events, as well as addressing critical time points such as when a program is winding down (somewhat of a misnomer as often this is the most frantic period) and the weeks following the end of a program. Generally speaking, these highlight the fact that brokering requires forethought, planning, knowledge about youth, and explicit action. One group of Hive members offered this succinct recommendation at a community meeting[6] on brokering strategies: "Think about after...*before*."

DURING THE PROGRAM		AFTER THE PROGRAM
At any time… ● **Organize field trips** to new settings to meet new people and institutions. ● **Share information about program topic-related events** (conferences, lectures, etc.). ● **Discuss how engagement in the program's activity** can be **connected to school activities**, or **career or school goals**. ● **Provide speaking opportunities** for youth to present/share their projects.	*Towards the end…* ● **Debrief with students** and help them identify what they'd like to do next. ● **Help youth apply or register** for an opportunity. ● Encourage youth to stay in **contact with the organization**. ● **Offer 'leveling-up' opportunities** to youth who have completed the program (e.g., co-teach the program, become a 'student resident,' etc.). Possibly base this on **passion** in addition to (or instead of) skill level.	*Periodically…* ● **Check in with former youth participants** periodically. Let them know you're interested in their activities. ● **Provide speaking opportunities** for youth to present their projects. ● **Schedule 'reunions'** with all youth who participated at a particular program. ● Identify **'junior leaders'** who are ready to scaffold their leadership roles with younger youth; have them serve as the **'youth bridges.'**

Table 1. Examples of brokering strategies across an informal learning program life cycle (generated by Hive NYC members).

Opportunities and resources that get brokered.

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

In this section, we provided our collective vision for promoting Connected Learning pathways through brokering future learning opportunities, then moved to a more in-depth description of brokering. We now introduce how effective brokering can help all youth access the full extent of the social capital within their networks.

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[5] In his categorization of brokering mechanisms, Small (2006) found that 'degree of formality' (i.e., alignment with program or job requirements) and 'staff dependency' were helpful factors to consider.

[6] See Lynn Casper's Thimble recap: http://mzl.la/1IGchSa

Developing social capital through a network of social support: Adding brokering to the relationship dynamic

Interviewer: So who tells you about opportunities [related to game design]? Who does that?

'Cerebral': Nobody really…If someone hears about it, they'll say it, but I don't think it's for game designing. I think they say it just because they know I like gaming…it's random…It's very random.

[8/18/14]

In addition to discussing how to broker, it is important to discuss why brokering is important, especially when it comes to helping youth over time. Here, we bring in the concept of social capital, which may be understood as 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, 2001, p. 24).[7] Schwartz, Kanchewa, Rhodes, Cutler & Cunningham (2015) add that these relationships "provide access to information, opportunities, and material resources."

Not surprisingly, youth who have social networks that are more robust and supportive are more successful at accessing social and material resources to meet their needs compared to youth whose networks are less supportive. We also know that different socioeconomic groups have varied supportive capacity within their social networks. Stanton-Salazar (2001) describes middle-class individuals as having 'cosmopolitan networks' reflecting connections to individuals that make possible "smooth access to the mainstream marketplace where privileges, institutional resources, opportunities for leisure, recreation, career mobility, and political empowerment are abundant" (p. 105). So called "working-class networks," by contrast, are likely to be more 'bounded,' i.e., smaller, more homogeneous, tightly-knit, turf-bound, and therefore limited in terms of their potential to help an individual engage in mainstream institutional spheres.

As one may imagine, these differences in network composition impact the potential aid a network can provide to its members. 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. While both groups of students utilized their peer networks for support and exchange of helpful information, because middle-class youth were connected to other youth who themselves had connections to important institutional agents and gatekeepers and poorer youth were primarily connected to other low-income peers who had also dropped out of school, there were striking differences in the kinds of support each network of peers provided. Students from middle-class families shared information about the college admissions process and SAT prep centers, while high school drop-outs tended to share 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. Taken to its extreme, Stanton-Salazar (2001) warns us that social networks can function as both 'support systems' and 'social prisons' (p. 105).

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[7] Scholars have described social capital in various ways, often emphasizing different elements of this popular concept (see Dika & Singh, 2002); here we've provided a widely accepted definition.

This research speaks to a need to ensure that youth lives are infused with individuals who not only can provide emotional support, but who also have the knowledge and resources to propel them forward in their endeavors in concrete ways. The unfortunate reality is that this is often not the case, especially in poorer communities, and especially when it comes to providing resources around achieving possible futures that include knowledge-intensive careers such as those related to digital media and technology.

The Hive NYC community has the potential to address these issues among the youth it serves. Over time it has developed into a robust social network of educators and professionals who collectively represent an impressive cache of human and social capital. In addition, Hive members' programs are often structured in ways that allow youth and educators to get to know each other through unstructured time, hanging out, and project work. These hanging out periods are important so that educators can get to know—and develop—youth's passions and interests. We have observed trust and norms naturally emerge in these contexts as youth develop skills, get feedback from others, and find inspiration in conversations with fellow peers and adults. Furthermore, interactions that have happened over the course of a program, with guest speakers, teaching artists and individuals encountered on field trips, have made visible to youth more opportunities and resources that may be accessed down the road (see Figure 1).
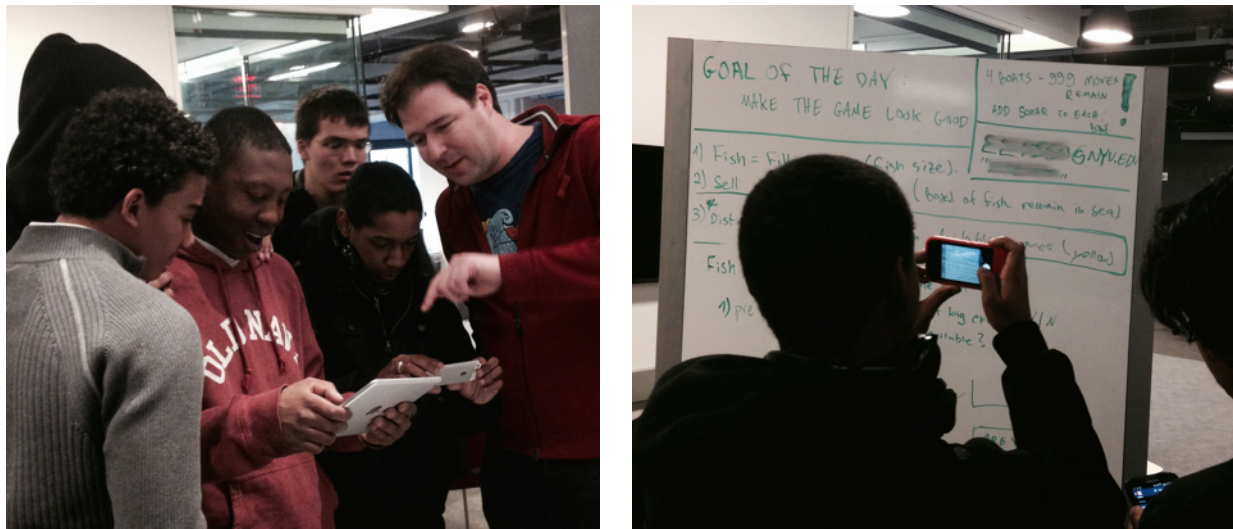

Figure 1. *Eyebeam's Playable Fashion program facilitator organized a field trip to New York University's Media and Games Network (MAGNET) facility in downtown Brooklyn last spring. At left, an NYU graduate student is demonstrating his augmented reality game. The graduate student also pointed to his name and email address on a white board and encouraged youth to take a photo of it and contact him (right).*

Overall, one of the ways in which the Hive network may powerfully impact its youth is through the way members' programs serve to connect youth with individuals who have tremendous human and social capital. By focusing on ways network members can help youth develop meaningful relationships between youth and resource providers in our city, we can empower more youth to discover and take advantage of opportunities to explore or continue with an interest. In some cases, it may also be necessary to also help youth develop the social skills and capacity as a precursor or complement to these relationships, an issue we turn to next.

Counter-acting differences in network orientation and help-seeking orientation among youth

> *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...I guess after that I was like there's no point; I'm pretty sure they don't care about how my life is. I guess that's a pessimistic way of thinking about it.*
>
> *-'Cerebral,' Age 18, Hive program participant, 7/28/14*

In this section, we highlight an important aspect of the relationship building dynamic that may pose a barrier among youth to developing rich social networks of high capital individuals. Youth we've interviewed have expressed differing attitudes and motivations towards forming relationships with individuals affiliated with a Hive program, despite the fact that they reportedly deeply enjoyed the program and would like to enroll again. Some youth were more interested in peer-socializing and didn't feel compelled to keep in touch with adults; others recognized the potential social capital of certain adults but failed to see how other potential brokers would be able to help. Cerebral's thoughts describing why he didn't stay in contact with the two facilitators of a Hive program reflect one perspective, namely that youth may not feel that program adults would welcome further contact after a program is over. Another youth brought up that she had wanted to reach out to two filmmaker teaching artists after the program to explore the possibility of continuing her filmmaking education but in the end was "too scared to ask." She added, "[I never have] the urge to talk to someone new or…just ask them a simple question or something that opens the door…I'm shy." She also discussed how formal requests for equipment or for information about internships often are more appropriately done over e-mail, a form of communication that she is uneasy about using. She said, "I always feel like I do something wrong in an e-mail, or like, an e-mail should be more formal than it really is. I [feel like I need to] structure it like an essay…it's weird for me." Stanton-Salazar 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" (2001, p.114).

These comments and observations somewhat reflect the kinds of attitudes and capacities that motivate an individual's engagement in relationship building, or what social anthropologist Barnes (1972) has discussed as one's *network orientation*. Stanton-Salazar (2001) uses 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)" (p. 25–26). One may view one's help-seeking orientation as a component or a visible instantiation of one's wider network orientation. Connecting these terms to the earlier examples, it seems that if we want to help youth develop more social capital in certain fields, both through our own brokering actions but also through their own relationship-building, we need to develop more sensitivity to these types of issues. For example, Stanton-Salazar's (2001) work with Latino and Latino-American youth has traced how contextual factors in their lives can lead to mistrust and wariness that over time may cause some youth to adopt a posture of "unsponsored self-reliance" that manifests in avoidance strategies among youth when it comes to interacting with certain adults (such as teachers, who could potentially provide aid). Stanton-Salazar also points out that while this trait may be

celebrated as a core American value, sociologists have indicated that people who claim to have "made it on their own" generally were "deeply embedded in resource-rich networks and relationships (Fischer, 1982; Warren, 1981)" (Stanton-Salazar, 2001, p. 112).

In addition, interviews with various Hive educators indicate a universal willingness to keeping the lines of contact open. Yet, given their busy schedules, they also generally expected youth to take the initiative to reach out; in fact some adults told us this is how they discern who's "really interested." Regardless of whether Cerebral is truly committed to a particular interest or activity, his comments illustrate that there may be other reasons besides lack of interest or commitment in terms of why a youth would decide not to maintain a relationship.

Our intention here is to bring awareness to some of the wider issues involving the youth we serve that might make brokering and relationship building more difficult to achieve. Forming deep bonds between youth and helpful individuals is an important first step in the process of enhancing youth social networks in the service of supporting their interest-driven pathways. While interactions that occur as part of youth development programming undoubtedly lead to relationships of varying closeness, we still largely lack formalized ways of maintaining those bonds and giving them a chance to develop into something potentially more meaningful and longer lasting. As a result, social ties that formed between youth and high-resource individuals during a program often may wither away after the program is over. We argue that this loss of connection—something we've characterized in earlier research as a "post-program slump in support" (Ching, Santo, Hoadley, & Peppler, 2014)—has unfortunate consequences in young people's sustained access to opportunities, experiences, and various forms of support that may be consequential to their emotional, intellectual, and personal growth. A greater awareness of these issues will help us develop additional strategies as well as ways to measure how well we are brokering and for whom.

Knowledge about Future Learning Opportunities: Integrating a Fragmented Information Ecology

Just as there are key challenges to overcome in relation to youth network orientation and help-seeking orientation, another critical leverage point to consider is *how information related to future learning opportunities is accessible to educators that play a brokering role*. Valuing brokering as a practice and orienting young people to seek out future learning opportunities can only go so far if educators lack information sources about what opportunities are out there.

Currently the information ecology regarding future learning opportunities can feel somewhat fragmented. There is simultaneously too much information—with opportunities about upcoming programs circulating regularly in places like listservs and newsletters—and yet also not enough; in moments when an educator might be looking to broker opportunities there is no central place to look. Opportunities circulate through inboxes, via social media, in event postings on places like Eventbrite and on paper flyers and postcards given out at events and posted in schools, yet educators regularly cite challenges of not having knowledge of the right opportunities, ones that are aligned to their youths' interests and that they trust as being high quality, especially in moments when a youth or parent is ready to take advantage of them. In short, the ability to broker well is served by making information about future learning opportunities more discoverable.

In the context of Hive NYC, administrators are engaged in ongoing efforts to gather information about upcoming programmatic opportunities in blog posts and in prototypes like the AWSMfinder opportunity map[8], and school partners in initiatives like NYCDOE's Digital Ready[9] send out periodic newsletters that include information about scholarships, internships and open programs. Efforts in other cities, notably the Cities of Learning initiative, have also made headway in developing informational infrastructures for opportunity discovery within a given urban area.

Initiatives like these should continue, and should take a flexible approach to development that takes into account ongoing insights into how educators relate to the informational ecologies that might support brokering practices. As Hive Research Lab has engaged with the Hive NYC community in discussions and in experimental initiatives related to brokering, a number of issues have come to light that might inform such efforts. To begin with, many youth-serving organizations that might want to broadcast opportunities far in advance so that they can be shared and discovered by youth around the city find themselves stymied by realities around how soon programs are confirmed to launch. Details of many summer programs, for example, aren't confirmed until weeks prior their start, making it difficult to make them available for discovery when spring programs conclude. Additionally, educators who are attempting to broker have shared issues about how to know whether to trust a given opportunity as being high quality, or even having enough insight to know whether it will really meet a youth's interest or not. Such 'transparency' issues around opportunities must be addressed in order for educators to be effective brokers. Finally, there are issues of organizational structure that are a factor in brokering learning opportunities. In many cases, those within the organization that have the most access to information sources related to opportunities (e.g., being subscribed to certain newsletters or listservs) are not the same individuals that run programs and have most contact with, and knowledge of what might interest, young people who are connected to the organization. Such structural gaps create a situation where on the ground educators may not be empowered with the information they need to be effective brokers even though this information exists within the organization.

A key opportunity for the Hive NYC network moving forward is to coordinate around the goal of making future learning opportunities more discoverable and to allow educators to more efficiently assess the appropriateness of opportunities for the youth they serve. In the following sections, we will propose a conceptual model of brokering and close with a short list of recommendations to move our collective understanding and capacity around this goal.

Conceptual model of social capital development through brokering

In response to issues set forth in this paper, we propose a conceptual model for how brokering relates to social capital development that can lead to valued youth personal, academic, professional, and civic outcomes (Figure 4).

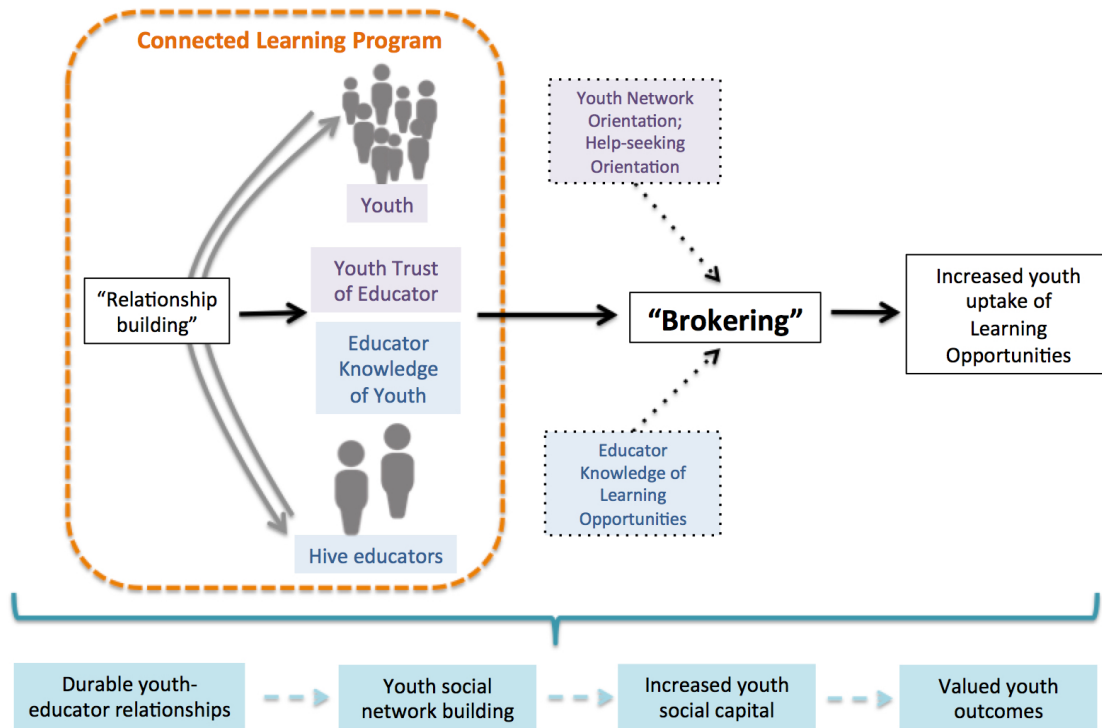
[8] http://bit.ly/19FV7oj
[9] http://digitalready.net/

Figure 4. Brokering as an educator practice leading to increased youth social capital and uptake of learning opportunities.

This model highlights an important route to supporting **increased youth uptake of learning opportunities**. Key to this process is the **relationship building** that occurs between educators and youth typically in the context of Connected Learning informal learning programs run by Hive member organizations. We postulate that the environment afforded by these programs 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, needs, etc. (i.e., **educator knowledge of youth**). As mentioned earlier, when educators know their youth and have close relationships with them, it is more likely that youth will take up future learning opportunities that these educators recommend. This allows for successful enactment of various **brokering** practices leading to increased youth engagement in learning opportunities.

There are two important supporting components, discussed in earlier sections, that play critical roles in the brokering process. The first is how a young person's **network orientation** or **help-seeking orientation** may positively or negatively affect her ability to take up and navigate the opportunities brokered by high resource individuals. Secondly, educators' ability to effectively broker relevant opportunities for youth is contingent on their **knowledge of learning opportunities.**

Given our model highlighting the important components of successful brokering of future learning opportunities for youth, we close now with a few recommendations for moving these ideas forward in practical ways.

Recommendations

The intention of this paper was to establish the importance of brokering future learning opportunities to youth in service of supporting their Connected Learning pathways within and through the Hive NYC network and to raise some important factors to consider when engaging in this practice. Brokering entails both linking youth to other opportunities as well as helping youth develop social networks that will allow them to enlist in support down the road. We now offer a few recommendations that illustration some ways in which individual organizations and networks can enhance this vision of brokering and youth social capital building. These recommendations are not exhaustive and should serve as the starting point for how to consider useful ways to increase our ability to broker future learning opportunities to youth. We are cognizant that many organizations already strive to emulate these practices amidst competing pressures and time constraints; we recognize and respect these efforts and hope we can continue to build upon and strengthen them.

Organization-level Recommendations

Organizations play a crucial role in the brokering process - they provide both the context for relationship building to occur as well as facilitate introduction to high resource individuals (i.e., educators, teaching artists, visiting guests, etc.). The issues raised in this paper suggest implications for organizations in terms of how we manage our program staff and teaching artists, what skills we continue to hone, and what we prioritize in our engagement with youth.

- **Ensure that program educators and teaching artists receive adequate guidance and resources around active brokering.** While those who see themselves as professionals in the youth development space are generally familiar with the value of relationship building and, to varying degrees, brokering learning opportunities[10], this perspective does not necessarily hold for other program staff such as teaching artists, many of whom self-identify as digital media and technology professionals and may not be familiar with general principles of youth development. Because these individuals are often interact with youth closely during the program *and* they represent a valuable connection for youth to certain digital media futures, we recommend articulating to them the importance of brokering future learning opportunities as well as providing ongoing support and guidance throughout the course of the program.
- **Consider integrating activities at specific points in a program that support relationship building and brokering of future learning opportunities.** The table on p. 7 represents a summary of common brokering practices that Hive educators have enacted in their programs. We hope that bringing these practices together in one place may help educators experiment with new forms of brokering and in general expand their repertoire of brokering practices. We also recognize that many of these activities may require extra planning and time, which could affect other goals of the program. We welcome more discussion in the community around how to alleviate such tensions.
- **Consider how organizations might support a positive youth network orientation.** Given what we know about youth network orientation and help-seeking orientation, it may be important to discuss with youth the importance of soliciting support from others who can provide valued opportunities,

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[10] See the Connected Mentor site: http://connectedmentor.com/

resources and references, as well as help them develop the skills and comfort with doing so. Researchers at the Center for Evidence-Based Mentoring[11] have produced relevant resources in this area as part of their youth-initiated mentoring initiatives.[12]

- **Create or broker leveling-up opportunities for youth.** An important part of supporting youth pathways is to link young people to other opportunities, especially experiences that are slightly more challenging or offer more leadership responsibilities. Several larger institutions in Hive NYC such as New York Hall of Science and the Rubin Museum, who have "ladders of opportunities" within the organization where youth can start as program participants and then graduate to become interns and co-teachers, provide programmatic models worth examining.

- **Designate a "brokering point person" on staff.** As a means to coordinate information about relevant future learning opportunities, organizations and institutions, organizations should consider designating a staff person as a "brokering point person." Depending on organizational capacity, a person in this position might organize and circulate information among front-line educators, run trainings on best practices for brokering, run internship placement programs within the organization, maintain a youth-facing listserv through which opportunities can be shared and generally be thinking about advancing organizational brokering strategies that support youth beyond individual programmatic opportunities.

Network-level Recommendations

Brokering can be a time intensive practice when done in isolation. As a networked community of educators, however, we have the opportunity to explore tools and routines that will allow for effective brokering practices to spread and achieve scale. Figuring out how to better leverage the trust and social connections between organizations in Hive networks is a key opportunity towards developing more impactful ways to broker future learning opportunities to our youth. Additionally, engaging in strategic partnerships with other youth-serving institutions will produce the kind of supportive connective tissue that will enable more youth in the city to build Connected Learning pathways utilizing a wider range of opportunities.

- **Develop efficient and timely ways for information about learning opportunities to circulate to brokers as well as be shared directly with youth.** In order for brokers to effectively connect youth to future learning opportunities, they must have knowledge of such opportunities in the first place. Currently, information is available, but is not always delivered or made available in ways that are timely, accessible, and/or comprehensive. Having access to a consistently updated repository of high quality information that would meet the general interests of a majority (if not all) Hive youth would be an extremely powerful lever for supporting Connected Learning pathways.

- **Create and deepen network-level infrastructure that is directly encountered by young people and can link them to future opportunities.** Hive participation platforms tend to focus on professional collaboration between organizations, but a range of network-level initiatives including pop-ups, Hive Youth Meet-ups and Emoti-con! put youth directly into contact with a range of organizations that they might then look to for future learning opportunities. Such cross-organizational youth-facing

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[11] http://www.umbmentoring.org/

[12] http://chronicle.umbmentoring.org/tag/youth-initiated-mentoring/

initiatives should continue to interrogate how well they're operating as contexts for brokering. Additional infrastructure such as network-level youth mailing lists and youth-directed social media channels could be considered as means to directly link youth to opportunities within the network.

- **Create network convenings that bring together educators engaged in brokering to develop and share best practices**. In addition to creating cross-organizational contexts where Hive educators might learn about other organizations they can link their youth too, consider creating explicit convenings targeted at educators that play a brokering role within their organizations as a means to build collective knowledge around the practice of brokering future learning opportunities to young people. Such educators might not only come from Hive organizations, but also from schools that have an active interest in linking their youth to informal learning opportunities.
- **Create strategic linkages between the Hive network and the school system that are targeted towards brokering future learning opportunities.** Schools represent a critical institutional context in young people's lives, and are spaces where future learning opportunities should be shared. Many Hive organizations have strong individual relationships with specific schools, and Hive NYC has partnered with the NYC DOE through the Digital Ready and SummerQuest initiatives. There is potential to both expand and deepen this work to support goals around brokering that we've discussed in this paper. Engaging in network strategy here might mean systematically fostering more awareness among teachers and other potential brokers in schools such as guidance counselors about potential learning opportunities available within Hive network organizations. It could include holding coordinated multi-organizational events, like pop-ups or maker parties, within schools to expose youth to organizations and institutions that are linked to their interests. More robust collaborations might involve creating coordinated mechanisms whereby schools with specialist tracks can be linked to particular member organizations that are aligned with their focus.

Conclusion

To have a long-term and life-changing impact on the youth we serve in the city, it is not enough to focus just on optimizing the learning that happens *within* particular programs and supportive spaces that we provide for youth; we must begin to build bridges *between* them as well. Focusing on the practice of brokering is important because it represents a crucial opportunity to support our youth in achieving long-term success and having agency in their lives. Hive educators and their expertise and professional social networks represent invaluable resources for helping youth continue on Connected Learning pathways and we should explore and invest in ways to fully leverage them.

Furthermore, increasing youth social capital within the network may not just be considered an important outcome for individual youth. Some researchers have suggested that programs that focus on building social capital among participating youth and the surrounding community not only see stronger outcomes for youth but also positive changes at the community and city level. Calvert, Emery and Kinsey (2013) describe how 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).

They provide the compelling argument that when we focus on developing the social capital of young people, we may also be driving the development of productive social structures across communities and the city as a whole.

Brokering deserves deep consideration as an effective means towards creating a true 'network for learning'. It represents a core practice that can complement other initiatives such as building new infrastructure or architecting sequences of programs; it also aligns closely to the priorities of educators and speaks to youth development goals that they value. By investing time and resources towards cultivating our collective understanding of brokering and mentorship, Hive NYC can create a community of practice that advances youth not just within but beyond the bounds of any given experience toward brighter and more just futures.

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Appendix A. White Paper Contributors

This community white paper is the product of many conversations and interactions with people both within and beyond the Hive NYC Learning Network. Here we attempt to acknowledge everyone who made a contribution, from participating in a group dialogue about these issues to adding ideas into an etherpad, to poring over and commenting drafts of the paper to ideating recommendations for practice. We also list attendees of the Youth Trajectories Design Charrette where the original need for further discussion of these ideas arose, the Hive NYC community calls and meet-up where we continued the conversation, and the Youth Trajectories Affinity Group that dove into these issues more deeply. Also, please note that we included the affiliations of individuals at the time of their participation.

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