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EVERYONE DESERVES TO BE HERE: LEARNING AND RADICAL INCLUSIVITY  
AT ARTLAB+

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by  
Grace Wingo  
A Thesis  
Submitted to the  
Graduate Faculty  
of  
George Mason University  
in Partial Fulfillment of  
The Requirements for the Degree  
of  
Master of Science  
Educational Psychology

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Everyone Deserves to Be Here: Learning and Radical Inclusivity at ARTLAB+

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## **DEDICATION**

This is dedicated to my grandmother, Roro.

## **ACKNOWLEDGEMENTS**

I would like to thank my thesis committee for their constructive feedback and support. Thank you Tyler Denmead, Erin Peters-Burton, and Kimberly Sheridan. My advisor Kim Sheridan has been an invaluable resource and the best mentor/advisor I could have asked for to assist me in this journey. I have learned so much from you, thank you. To my friends near and far who have provided support throughout my years at Mason, thank you. I thank you and appreciate the early congrats, the congrats of small milestones along the way, and the unwavering support you have shown in me and my ability to engage with this work. Thank you to my siblings, Josh, Billy, and Kelly for always believing in me, joking with me, and celebrating accomplishments, big and small, with me.

I am grateful for the support, care, and love from my parents. Thank you Mom and Dad for always believing in me. You inspire me daily and I could not have done this without you.

Thank you to the teenagers and mentors I worked with at ARTLAB+ who participated in this research. From day one I have felt welcomed and included in the studio. I am grateful for your openness with which to engage in this research study with me. Thank you for showing me that another world is possible and already present.

Finally, thank you God for giving me the strength, persistence, and focus to see this project through to completion. I am overjoyed.

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## **ABSTRACT**

### **EVERYONE DESERVES TO BE HERE: LEARNING AND RADICAL INCLUSIVITY AT ARTLAB+**

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George Mason University, 2017

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Digital media is changing the way young people play and socialize. This thesis addresses the research questions of how and what do teens learn in ARTLAB+, an after school drop-in digital media studio? And, what features create a learning environment for teens? This thesis uses the theoretical frameworks of Hanging Out, Messing Around, and Geeking Out (HOMAGO) and Studio Thinking, eight studio habits of mind. I conducted an instrumental case study of ARTLAB+ (Stake, 1995). My goal was to understand the learning that occurs at a drop-in digital media studio within a museum as well as what are the features that create a learning environment. I analyzed the data using in vivo and values coding. Findings of this study build on the body of work on digital media and learning as it relates to youth between the ages of 13 and 19. I discuss implications for educational practitioners and designers of informal learning environments and the field of

digital media and learning.

*Keywords: Hanging Out, Messing Around, and Geeking Out*

## **CHAPTER ONE: INTRODUCTION**

Young people are able to connect now more than ever with their friends, families, and communities using multiple modes of digital media and technology. Teens are able to use technology to create, play, and share ideas with people locally and globally. The application and creation of new media is growing each day and it is vital that all young people have the means to participate fully in this digital society.

Who has access and the supportive resources to use technology determines who is able to create digital media. Research on the digital equality gap show differences in new media access and practices across race and socioeconomic status. For example, statistics show that African-American teens are using on average 11 hours' worth of media daily in comparison to their white and Latino counterparts who are using 8.27 and 8:51 hours of new media respectively (Common Sense Media, 2016, pg. 4). Additionally, a recent study found that "lower-income youth and minority youth spend more hours with digital media than their higher-income counterparts" (Common Sense Media, 2015). On a study of the media practices of lower-income African-American youth, researchers found that there is little evidence of digital content creation on participants' own devices (Common Sense Media). A different study reports similar, yet contrasting data: "67% of African-

American youth have created a presentation on a computer, 52% have made digital art, 47% have written blogs, stories, or articles online for fun, and 45% have made digital music” while only “21% created a video game, 18% created an app, 17% built a website, and 13% have coded” (Rideout, Scott, & Clark, 2016). This data is striking considering the statistic of African-American teens being the highest consumers of new media.

Studies show differences in technology access and creation of computer programs. In a 2015 report on the media use of teens, researchers found that the majority of youth in higher-income families have a laptop in the home compared with a little over 50% of youth in lower-income families who do (Common Sense Media, 2015, pg. 17). In addition to differences in digital media access within varying socioeconomic statuses, there are differences in practices and interests across genders. A study reports that African-American boys are more willing to troubleshoot computer problems while African-American girls are less likely to express an interest in learning computer programming (Rideout et al., 2016).

Thus the digital divide is not just about access to new media and technology, it is about the tools, skills, and literacies enabling young people of all backgrounds to participate and be fully included in the creation of new media (Warschaeur, Knobel, & Stone, 2004). From a social and economic equality standpoint, assessing diverse groups’ use of technology is especially pertinent. Differential access to new media can increase existing educational inequalities if attention to issues of equity are lacking (Larson, Ito, Brown, Hawkins, Pinkard, Sebring, 2013; Warschaeur et al., 2004). For example, the

academic achievement gap is likely to persist if access, mentors, and resources that allow teens to build 21st century skills, are not available for youth from no dominant backgrounds (Davis & Fullerton, 2016; Wartella, O’Keefe, & Scantlin, 2000). Spaces outside of school such as afterschool centers, community centers, museums, and libraries are avenues through which young people can utilize supports such as mentors and workshops to learn and engage with digital media.

In this study, I conduct an instrumental case study (Stake, 1995) of an afterschool drop in digital media studio. Through this study I ask the questions: 1) What do participants at ARTLAB+ learn and how? 2) What are the features that create a learning environment at ARTLAB+? As I explored the learning environment I became more focused on their use of the construct of “radical inclusivity” to describe and sought to understand the features in the learning environment that supported or (failed to support) this radical inclusivity. I ground this investigation in the learning theories of HOMAGO and the Studio Thinking Framework which have roots in constructionism. The goal is to understand what learning looks like in ARTLAB+ and what features create or fail to create a radically inclusive learning environment for teens. A second goal is to realize implications for the design of inclusive digital media, making, and tinkering learning environments.

### **Current Research on Digital Media and Learning**

There is growing body of research on how young people incorporate digital media into their everyday lives in and outside of school (Coiro, Knobel, Lankshear, & Leu,

2008; Ito et al., 2010; Sefton- Green, 2006). Young people are increasingly shifting their activities and their social lives to online spaces (Watkins, 2009). They are going online to connect and share stories with their friends using websites such as Tumblr, Facebook, Twitter, YouTube and other social media platforms that bring people together through shared interests in a digital context. This practice of connecting with one's peers runs counter to the claim that sociologists and political scientists make that innovations in technology and media are pulling people apart from one another (Oldenburg, 1999; Putnam, 2000). Aside from being a source of disconnect, scholars also claim that social media contributes to the decline of community life and civic engagement (Oldenburg, 1999; Putnam, 2000). However, recent research on youth and technology use is that young people actually are building community online and engaging in social and political issues that they care about albeit in different ways (Watkins, 2009). Instead of face- to- face contact young people are using screens to connect and spend time with their friends. This shift in being together invites a new way of thinking about togetherness and community.

As young people use digital technology to connect with their friends, there are differences in how populations of youth use digital media. As discussed above, researchers find that young people are using, interacting, and consuming digital technologies yet few are taking up opportunities to create and design with technology (Ito et al., 2010; Livingstone & Helsper, 2007). There is also a gap between youth who lack social, economic, and cultural capital and the benefits of rich learning opportunities



afforded through today's digital and networked media (Ito et al., 2010; Livingstone, 2009; Seiter, 2005; Watkins, 2009). For example, young people from middle class families have the learning supports and afterschool enrichment activities to support self-actualized learning and to access knowledge networks online such as discussions forums, how-to videos, and educationally oriented games (Larson et al., 2013). Researchers find that students who are exceptionally motivated and resourceful are the ones who are able to self-direct their learning and support their interests without the use of strong social supports (Ito et al., 2010; Ito et al., 2013). Therefore, it is important to provide social and institutional support to young people who might otherwise lack access to such support so they may take advantage of resources and relationships that can lead to rich learning opportunities (Larson et al., 2013). In order to fill these gaps, afterschool learning environments such as digital media studios and Computer Clubhouses seek to provide researches such as mentorship, availability of technical tools, new media, and space so that young people can explore their interests and learn to use new technology (Kafai, Peppler, & Chapman, 2009).

### **Digital Media and Identity**

There are studies on the role of identity development, youth voice, and representation in afterschool digital media and learning environments (Ahn et al., 2014; Buckingham, 2009; Dahya & Jenson, 2015; Goldman, Booker, & McDermott, 2008). Dahya and Jenson (2015) highlight the impact of post-colonial structures as it relates to power and representation on student produced media, specifically how school norms and

expectations and the interests and goals of adults shape student work in complex ways. In this study, two Muslim girls at an under resourced school make choices in their digital media projects that reflect a fictional story about segregation, as opposed to a story from their lived experiences involving religious discrimination. Ahn et al. (2014) found differences in the divergence of career aspirations between two African-American teenage self-proclaimed gamers, after participating in an afterschool digital media program. One teen utilizes his ecology of resources available to him, such as tools, seeking help, and facilitators, and proclaims his interest to be a game designer at the end of the program. The second teen encountered a series of obstacles, had difficulty connecting his learning across contexts, and was uncertain about his plans for the future (Ahn et al., 2014). These studies highlight the nuanced and complex nature of identity work in youth digital media production as well as the importance of context and community in these programs.

Researchers study what motivates young people to participate in digital media programs whether taking up leadership roles or starting a new project (Honey & Kanter, 2013; Larson & Rusk, 2011; Sheridan, Clark, & Williams, 2013). One study of an afterschool program promoting interest in STEM serving underserved African-American students explores identity and agency. Youth shifted from passive participants to designers of instruction taking up more responsibilities and initiative as the program shifted from a primarily teacher-led instructional model to a more open-ended peer mentoring model (Sheridan et al., 2013).

## **Civic Engagement and Youth Digital Media Programs**

Young people are able to use storytelling and new technologies to address issues that are relevant to them. Researchers point out that interplay of social, cultural, and digital technologies brought youth to new levels of participation in their communities (Goldman et al., 2008). Additionally, engaging youth as leaders in the world around them demands more than technical training and access to technology. There is an iterative process that involves interacting with adults, figuring out what it is teens wish to voice, and collaborating with their peers (Goldman et al., 2008). One study illustrates how urban youth became empowered and engaged citizens through media production activities at an afterschool program. (Charmaraman (2013) found three themes emerge: social capital through group ownership, a safe space for creative expression and building community with diverse others. These three themes helped to facilitate the process of the youth telling their personal stories in and beyond the youth program which ultimately led to the youth protesting an issue that they cared about (Charmaraman, 2013).

Ito et al. (2015) propose a framework of “connected civics” to describe the learning that takes place at the intersection of young people’s agency within peer networks, their identities and interests, civic engagement, and opportunity. This type of learning emerges when young people achieve civic agency that is linked to their deeply felt interests, identities, and affinities (Ito et al., 2015). This research takes an asset-based approach recognizing the strengths of young people’s abilities to tell stories and put their beliefs into political action. Connected civics also puts the onus on adults to serve as

brokers to build relationships and infrastructures that connect the social, cultural, and institutional worlds of youths and adults (Ito et al., 2015). These studies illustrate the power of youth connecting with adult allies and leveraging digital media and social capital to give voice and influence in their communities.

Researchers also document the links between participatory cultures and youth political engagement (Cohen, Kahne, Bowyer, Middaugh, & Rogowski, 2012; Kligler-Vilenchik, 2013; Pfister, 2014; Shresthova, 2013; Zimmerman, 2012). Participatory cultures are cultures with low barriers to entry to artistic expression and civic engagement and that have strong support for creating and sharing one's creations as well as some type of informal mentorship (Jenkins, 2006). For example, Cohen et al. (2012) find that the interest driven online activities of youth are a foundation for engaging in participatory politics. Participatory politics are interactive and peer-based acts through which individuals exert their voice and influence on public issues that they care about (Cohen et al., 2012). As young people pursue interests such as online games, listening to music, or using social media they may also be gaining digital social capital or the knowledge, skills, and networks, necessary to become involved in participatory politics (Cohen et al., 2012). Kligler-Vilenchik, in a case study on fan communities, illustrate how participatory culture groups can be a way to scaffold members' participation towards the cultivation of civic identities, political expression, and taking political action. She gives an example of the Harry Potter Alliance (HPA) a non-profit organization, developed from the fan community of the movie series, and their actions in campaigns that promote the

legalization of same sex marriage and immigration rights (Kliger- Vilenchik, 2013).

### **Digital Media and Equity**

Scholars analyze issues of technology and equity for youth and break down the digital divide as more than just an issue of access but rather how social factors such as race, class, and gender shape the quality of their access and engagement with digital media (Warschauer & Matuchniak, 2010; Watkins, 2012). For example, a study on the internet use of first-generation Latino immigrant middle school youth illustrates the tensions that parents and families face on the risks of online activity (Tripp, 2011). The parents' anxiety over their children's use of the internet impacted the youth by limiting their online activities to school-based work thus resulting in less time to pursue open-ended exploration and self-directed learning (Tripp, 2011).

According to Warschauer and Matuchniak (2010) the digital divide is more about the differential abilities of young people to use new media to “carry out the kinds of expert thinking and complex communication that are at the heart of the new economy” such as analyzing and interpreting data, testing solutions, collaborating with others, and tackling complex problems (pg. 213). The social conditions of young people influenced by race, class, and geography play a role in what learning activities they take up with digital media (Watkins, 2012). Watkins calls on educators to reimagine how we can engage young people in digital media in ways that create more “empowering expressions of learning, creative expression, and civic engagement” (pg. 9). Attuning to the ways that young people come together to use digital media and create and refine new technologies

matter for learning scientists, educators, and the design of learning environments (Garcia & Morrell, 2013).

### **Youth Digital Media Programs**

Taking into account issues of identity, community and civic engagement, and equity, in young people's use of digital media, I now discuss specific digital media programs. One of the earliest afterschool technology programs for youth is The Computer Clubhouse that began in the early 1990's. This started with a goal to create a learning space where youth could have access to the latest computer technology as well as access to inspiring people who could support them as they developed creative projects based on their interests (Rusk, Resnick, & Cooke, 2009). The Computer Clubhouse programs are based on the constructionist principles of Seymour Papert where students actively create and develop personally meaningful digital projects (Rusk et al., 2009). The Computer Clubhouses are guided by four principles. One of these principles involves activities that engage youth in learning through design with a variety of tools to choose from (Resnick, Rusk, & Cooke, 1998). For example, activities might include constructing and controlling LEGO robots using Programmable Bricks and/or creating computer games (Resnick et al., 2009). In addition to technical skills, youth learn problem solving skills and resourcefulness such as "how to persist and find alternatives when things go wrong," as well as what their interests are (Rusk et al., 2009). The environment at the Computer Clubhouses support youth learning by creating an atmosphere of respect and trust where youth feel "safe" to experiment and explore without fear of judgment or looking silly

(Rusk et al., 2009).

Youth Radio in Oakland, California is a broadcast training program that provides six months of digital media and technology education to diverse teens and young adults. Soep and Chavez (2005) highlight a type of learning that occurs here called “collegial pedagogy” which is the structuring of roles between youth participants and adult teachers and the destabilizing of power relations. This pedagogy gives youth more of a voice and a lead in their inquiries, ultimately affecting the kind of learning that takes place (Soep & Chavez, 2005). For example, when creating a story, an adult producer must consult with young people to identify topics worth exploring, to interview characters, and to experiment with innovative modes of expression and vice versa as youth relate to adults who provide access to resources and their set of experiences (Soep & Chavez, 2005).

The relationships in these programs particularly between adult mentors and youth are integral to the programming. The Digital Youth Network founded by Nichole Pinkard in 2006 supports organizations, educators and researchers in learning best practices to help develop youths’ technical, creative, and analytical skills. Out of this project came the YOUMedia space which is a 21st century teen learning space at the Chicago Public Library. Similar to the Computer Clubhouse Network, YOUMedia learning labs have grown to other cities and communities across the country. The philosophy of the YOUMedia learning labs are based on the research on digital media and learning, specifically the work of Mimi Ito and colleagues on a three-year ethnographic study called Hanging Out, Messing Around, and Geeking Out or HOMAGO.

HOMAGO draws from social and cultural theories of learning such as situated cognition (Lave & Wenger, 1991) and distributed cognition (Hutchins, 1995). These theories emphasize the importance of social participation and the cultural identity of learners. Ito et al., (2010) describe two main ways that youth engage with new media: interest-driven and friendship-driven types of participation (Ito et al., 2010). Interest-driven practices put youth interests and activities first and these practices structure the peer networks and friendships. Friendship-driven practices center on how youth engage with their peers in online social worlds. For example, youth may mess around by creating and modifying their online identity profiles on social networking sites (Ito et al., 2010). Messing around is driven by teen interests, however, it is within a social and technical ecology where they can create and share photos, text, and other media with their friends on these social media sites, in the name of friendship-driven practices (Ito et al., 2010).

### **Youth Media Programs in Museums**

The role of digital technologies in museums can be a route to extend museum experiences to populations that may not be regularly engaged in museums such as young people. This design to include youth also involves a rethinking of curatorial practices and the type of artifacts that these museums house (Herr-Stephenson, Rhoten, Perkel & Sims, 2011). The Exploratorium in San Francisco is a museum and public science learning laboratory that provides inquiry based and participatory learning experiences in science, art, and human perception (Petrich, Wilkinson, & Bevan, 2013). At the Tinker Studio participants are invited to explore scientific phenomena in a collaborative activity using a



wide variety of tools, technologies, and materials (Petrich et al., 2013). Similarly, the Tech Museum of Innovation in San Jose, Calif. offers hands on and interactive exhibits split across four major themes of Communication, Exploration, Innovation and Life Tech. The Tech Museums holds a year Tech Challenge which engages students in grades 4-12 in a hands-on and team-oriented project geared to solving a real-world problem.

Other museums have dedicated physical spaces for young people to participate in and engage in creative activities (Herr-Stephenson et al., 2011). The Bronx Museum and the Museum of the Moving Image in New York City are examples of museums which provide innovative digital media production experiences for youth. The Teen Council at the Bronx Museum offers teens a year-long paid internship in an afterschool setting involving video production, artist interviews, and exhibition curation. The Museum of the Moving Image has a Teen Digital Media Lab which is a weekly drop-in program and offers teens opportunities in media making, experimenting, and learning in activities such as web based hacking and the use of Snapchat as a storytelling tool. Through these dedicated spaces teens are invited to visit the museums as well as participate in programs that are relevant and interesting to their lives in addition to having a role in shaping the museum.

Hybrid spaces or third spaces, between home and school, such as digital media studios can provide a space where youth are able to step outside of their present selves and imagine themselves and their places in the world as otherwise. Calabrese Barton, Tan, and Rivet (2008) use the term “hybrid spaces” to describe a location that mixes both

the present and future possible selves of participants, as well as a space that allows for multiple interpretations of what is normal and what is valuable. Accounts of youth playing the games of basketball and dominoes, participating in science outreach apprenticeship programs, and formal classrooms turned temporary makerspaces where young women participate in a design thinking challenge, are spaces where participants can enact new identities and have possible pathways to positive futures (Nasir & Hand, 2008; Norris, 2014; Polman & Miller, 2010). These learning environments motivate and provide a space for students to imagine another way of life and a new world for themselves. Digital media studios provide a third space for young people to imagine future and possible selves without constraints normally found in home and school.

### **Learning with Digital Media**

Young people are learning new media through multiple pathways, experimentation, play, collaboration, and exploration (Petrich et al., 2013; Buckingham, 2008). They are engaging with new media through personally meaningful experiences that deepen and expand participants comfort levels and knowledge of concepts. These facets are seen as vital parts of the learning process (Buckingham, 2008). Learning can be both highly social and autonomous as participants interact and work with others as well as pursue projects, tools, and help from mentors independently. (Buckingham, 2008). Through these experiences young people are learning how to learn. They are learning how to gather information, learning what strategies work well, and a sense of how they learn best (Buckingham, 2008). Learning scientists agree that young people's

engagement with new media provide vital learning experiences (Barron, Gomez, Martin, Pinkard, 2014; Ito et al., 2013; Jenkins, 2009; Petrich et al., 2013) However, young people need to have more than the requisite tools to participate in new media. It is vital to cultivate the culture surrounding the engagement with digital media and technology. In the next section, I discuss the maker movement and its connection with digital media and learning.

### **The Maker Movement**

With the rapid development of new technologies and the growing proliferation of dedicated spaces for young people to engage with digital media, other spaces such as makerspaces are increasingly becoming abundant in schools, museum, libraries, and afterschool centers. Beginning around 2006 makerspaces grew out of the hackerspace and do-it-yourself (DIY) movement and characterizes spaces where people can make, tinker, and create things collaboratively with various tools and technologies. A hackerspace is a “community- oriented space, sustainably funded by members, that supports creation and exploration” of computers and technological tools (Williams, Gibb, & Weekly, 2012, pg. 15).

The beginning of the hackerspace grew out of a desire to live and work in a way different than the patriarchal and economic order that reproduces societal norms and inequalities (Grenzfurthner & Schneider, n.d). The desire for new ways of being, working, and living came to fruition in the 1970’s after the revolutions of the 1960’s (Grenzfurthner & Schneider, n.d). Hackerspaces were spaces where people made tiny

new worlds within the capitalist structure in order to experiment with different ways of working, living and being (Grenzfurthner & Schneider, n.d). Hackerspaces originated from people working alongside one another in places that offered alternative economic structures that provided unconstrained freedom (Grenzfurthner & Schneider, n.d).

Makerspaces emerged from this movement with a focus on engaging young people in making things with their hands, experimenting, and testing out their ideas with materials and tools. “Makerspaces are part of a growing movement of hands-on, mentor-led learning environments to make and remake the physical and digital worlds. They foster experimentation, invention, creation, exploration, and STEM learning” (Institute of Museum and Library Services, 2012). There are several elements of makerspaces that are similar to digital media studios such as collaboration and coming together to work with new media around shared goals and interests. Baichtal (2011) describes a hackerspace as entering a space of collaboration where people come together by a collective undertaking to accomplish a goal (Baichtal, 2011). This collaborative energy and goal sharing pursuit is also indicative of a community of practice (Lave & Wenger, 1991). A community of practice is a group of people who come together to learn around a common interest (Lave & Wenger, 1991).

### **Current Research on Makerspaces and Learning**

As makerspaces continue to spread they are gaining traction in spaces such as museums. Researchers are studying the role of educators in supporting youth learning in museums (Bevan, Gutwill, Petrich, & Wilkinson, 2014; Brahms & Crowley, 2016;

Wardrip & Brahms, 2014). In MakeShop at the Children's Museum of Pittsburgh, teaching artists with an area of expertise in making, facilitate hands-on workshops and support participants individually as they make and start new projects (Sheridan et al., 2014). Communities of practice style participatory cultures take shape in makerspaces as experts and novices share space, individuals working on solo projects work alongside groups, and one participant spends a short time on one task while other participants work diligently on projects for months to years at a time (Sheridan et al., 2014). Research shows that access to sustainable relationships to adult facilitators and expertise support young people as they make and learn in museums (Brahms & Crawley, 2016).

There are researchers taking an equity-oriented approach to making that seeks to reconceptualize making and the design of makerspaces to ground them in the histories, needs, assets, and lived experiences of students of color (Calabrese -Barton, Tan, & Greenberg, 2016; Calabrese- Barton, Tan, & Shin, 2016; Vossoughi, Hooper, & Escude, 2016). These researchers argue that the way we conceptualize making can either broaden or restrict the hopes that this movement will contribute to pedagogies of liberation for students of color and working class students (Vossoughi et al, 2016). Vossoughi et al. (2016) in the Tinkering Afterschool program, give an example of working with a student who they perceived as "off task" and thus gave the student narrow forms of assistance and fewer opportunities for authorship. The researchers examined this tendency and made space to develop a more responsive approach to working with this student and others similar, stating that operating in an equity-oriented approach demands ongoing reflection

and analysis of behavior (Vossoughi et al., 2016). Calabrese-Barton, Tan, and Shin (2016) examine what contributes to equitably consequential pathways into and within STEM, specifically, how young people are able to author new routes into STEM through their social networks and unique use of tools, that demand a re-organization of the world and create new worlds that value and recognize their way of being.

There is research on the kinds of thinking and dispositions that young people develop through participation in makerspaces (Regalla, 2016; Ryan, Clapp, Ross, & Tishman, 2016; Sheridan & Konospasky, 2016). Scholars assert that participants develop their character and strengthen traits such as a sense of curiosity, social-emotional competence, and a growth mindset (Regalla, 2016), as well as individual and community resourcefulness (Sheridan & Konospasky, 2016). Participants also develop maker empowerment defined as “a sensitivity to the designed dimension of objects and systems, along with the inclination and capacity to shape one’s world through building, tinkering, re/designing, or hacking” (Ryann et al., 2016, p.36).

In makerspaces, the focus is more on physical objects within the domains of science and engineering while digital media labs have a focus on image, sound, and video production, photography, and visual design. Like makerspaces, digital media studios are spaces where young people can come together with others around shared interests to create projects and share ideas. Spaces such as ARTLAB+ blend traditional maker activities such as 3D printing, sewing, and circuitry with digital media making.

The purpose of this study is to understand how and what teens learn at ARTLAB+

and what features create a learning environment there? There is research on the digital equality gap that show differences in how young people, across race and socioeconomic status, are accessing and practicing new media. Studies show that although African-American youth are using and working with new media and creating digital content, there is a small percentage of youth who are creating video games, creating apps, building websites, and coding (Rideout et al., 2016). The opportunity to become a member of spaces such as digital media studios and makerspaces allow teen's access as well as the resources such as mentors, tools, and materials to develop the kind of thinking that these spaces can cultivate.

## CHAPTER TWO: LITERATURE REVIEW

### Overview

Youth are engaging with digital media in paradigm shifting ways that span their peer culture, home, school, and community. With this thesis, I contribute to the growing research on how young people are using and learning with digital media out of school. In what follows, I outline the theoretical framework of HOMAGO and Studio Thinking. I next discuss constructionism, multiliteracies, and further research on digital media and learning and associated literature in order to build a framework that addresses the topic of how and what teenagers are learning in ARTLAB+, an afterschool drop-in digital media studio for teens and what features create a radically inclusive learning environment. I next present an instrumental case study of how and what teens learn at ARTLAB+ and what features of the studio create and fail to create a radically inclusive learning environment. I conclude with a chapter discussing the implications of this thesis for the growing field of digital media and learning and connected learning and for learning scientists, and practitioners and designers of informal learning environments.

### Theoretical Framework

**Hanging out, messing around, and geeking out (HOMAGO).** Researchers have been studying the impact of digital media on young peoples learning and it's potential for



transforming education (Barron et al., 2014; Ito et al., 2010). I use the framework of Hanging Out, Messing Around, and Geeking Out (HOMAGO) to theoretically contextualize how and what teens learn in ARTLAB+ and what features create or fail to create a radically inclusive learning environment for teens. HOMAGO is a useful framework for this study because I seek to understand how the teens in ARTLAB+ utilize the studio, explore new tools and materials, and develop their interests and expertise in digital media. ARTLAB+ is one of the YOUmedia Learning Labs Network that are part of a national open network of youth-centered spaces dedicated to thinking about what libraries, museums, and community centers can become. Specifically, I want to understand what and how teens learn as they hang out with their peers, discover new forms of digital media and art, and pursue their interests and work on projects that led to sustained forms of engagement in ARTLAB+.

**Studio thinking.** While the HOMAGO framework will help me to frame the flow of activities, relationships, and learning arrangements in ARTLAB+, I will also use the Studio Thinking framework in this thesis to understand what are the features in ARTLAB+ that create the conditions for learning (Hetland, Winner, Veenema, & Sheridan, 2007). Based on research of five visual arts classrooms, researchers identified four studio structures apparent in visual arts classes. These are: (a) demonstration-lecture: teachers pose open ended questions, give examples and provide demonstrations to capture student interest, (b) students-at-work: students have space and time to work on their art with help from mentors or teachers when they need it and have questions, (c) critique: students give and share feedback on student artwork also giving time for students to reflect on their process, and (d) exhibits: students share their work with others in the community in a gallery style showcase or otherwise (Hetland et al., 2007). Hetland et al. (2007) also found eight studio habits of mind. They are (a) develop craft: learners learn to use tools, materials, artistic conventions, (b) engage and persist: students learn to develop focus and how to persevere on tasks, (c) envision: students learn to imagine possible next steps, (d) express: students learn to create works that convey their feelings and ideas, (e) observe: students learn to see things that otherwise out of the ordinary, (f) reflect: students learn to think and talk with others about their work and learn to judge their own work (g) stretch and explore: students can learn from mistakes, and go beyond their comfort zone, and (h) understand the art world (Hetland et al., 2007).

The habits of mind in visual arts studios extend beyond the visual arts to other arts disciplines (Hetland et al., 2007). Studio Thinking provides a framework for the teaching and learning of digital media. As ARTLAB+ is a digital media studio encompassing art and technology with elements in alignment with these studio classes, I use this framework to analyze the mentor-teen relationships, mentor styles of instruction, and teen creative and learning processes including: giving and receiving critique and participating in events that share student work. Next I review constructionism, which has roots in HOMAGO, in order to understand how teens learn as they make and share tangible objects from their ideas.

## **Constructionism**

Piaget's theory of constructivism offers a framework of how children think and act at different developmental stages (Ackermann, 2001). He argues that people gain knowledge and make meaning out of their experiences (Piaget, 1956). Children have their own views of the world that are created from their experiences and interactions with others as well as from their own needs and interests (Ackermann, 2001). Vygotsky (1978) has a social and cultural view of constructivism. He emphasizes the important role of cultural artifacts, tools, language, and people, as a resource for how learners make sense of the world (Vygotsky, 1978). He claims that knowledge is constructed through our social relationships and to our relationships with cultural practices (Vygotsky, 1978).

Seymour Papert builds on Piaget's constructivism and on Vygotsky's socially

constructed theory of learning with a theory of learning called constructivism. Papert, (1980) in furthering what Piaget has offered, states that working directly with materials helps to make formal knowledge more concrete and personal. Learners construct mental representations in conversation with their evolving material construction. Papert's constructionism is grounded in the context in which learning takes place. Therefore, constructionism, integrating with Vygotsky's social theory of development, is more dependent on the situation in which learning occurs, whereas Piaget's constructivism depends more on how knowledge is organized at different developmental stages through learners' experiences. Maker activities such as making e-textiles and digital media activities such as designing video games are rooted in constructionist pedagogy with the emphasis on tangible objects as participants build knowledge (Papert, 1980). Individuals in digital media studios utilize tools to create tangible representations of their ideas. This type of learning is also grounded in design thinking which includes ideation, making prototypes, iterations, testing, as well as brainstorming lots of ideas with few limits (Robeson, 2002). Additionally, Papert's constructionism is grounded in the context in which learning takes place. This is essential to the expansion of development.

Both Piaget and Papert view knowledge construction as intricately related to personal experience in the world (Ackermann, 2001). Piaget is more concerned with how learners experience the world, distance themselves from it at times, and come back to the world in order to organize their thoughts about the external reality so that equilibrium is maintained (Ackermann, 2001). Through the process of assimilation, or incorporating

new knowledge into one's current ways of thinking about the world, learners are able to maintain balance and organization in their mind (Ackermann, 2001). Papert (1980) purports that learning by making things using objects is a useful way of engaging with ideas in more concrete ways, resulting in learners having a more personal connection with one's favorite or most compelling representation or artifacts. Specifically, it is through making external artifacts such as computer programs, video games, or music that learners best construct and build knowledge (Papert).

Constructionism is a useful framework for thinking of the impact that learning in digital media studios has on young people. In the book *Mindstorms*, Papert (1980) describes how his earlier experience with gears helped him to think in mathematical ways. The abstract concepts of mathematics were made accessible to Papert by his personally meaningful relationship with gears (Papert, 1980). Papert posited that he learned mathematical ideas such as grouping and relative motion by projecting himself in his mind as the gear. Through the sensorimotor experience of being the gear these advanced concepts became clear for him (Papert, 1980). Constructionism is a way of working with materials to facilitate new knowledge (Papert, 1980). Kafai and Resnick (1996) state that "one of the main tenets of constructionism is that learners actively construct and reconstruct knowledge out of their experiences in the world" (p. 2). When learners use digital media to make something concrete out of their ideas they build a personal relationship with the new knowledge gained.

## **Constructionist Learning Environments**

Constructivist learning environments are designed to give students a problem, project, case, or an issue to solve or resolve (Honebeim, 1996). In constructivist learning environments the problem at hand drives the learning. Honebeim (1996) claims that in order for meaningful learning to occur the learners must have ownership of the problem. Additionally, educators can offer problems or issues that are relevant and interesting to the learner in order for ownership to occur (Honebeim, 1996; Ladson-Billings, 1995). Constructivist learning environments also engage learners in authentic experiences (Honebeim, 1996). This can mean engaging in problems that have personal relevance or interest to the learner (Honebeim, 1996).

Constructionist learning environments take the project driven learning further with a focus on artifacts, and the absence of fixed curriculums where instead participants use technology, tools, and materials, to build things with the presence of a teacher who facilitates the process (Blikstein, 2013). In constructionist learning environments students are more than consumers of technology and media they are creators of them. For example, Kafai (1996), researched how fourth grade students approach designing educational games that teaches fractions in a fun way. Students learned which strategies worked for them through designing the games in addition to learning Logo code (Kafai, 1996). Constructionist environments encourage and embrace different learning styles as there is a multitude of ways to design, create, and work with different types of technology

(Blikstein, 2013). Constructionist researchers assert the importance of students working on projects that are personally meaningful, can be self-directed, and are cognitively complex in order to give students a successful learning experience (Kafai, 1996).

In constructionist learning environments community is an important part of the learning process. People learn to make sense of the world through their experiences, interactions, and relationships with others. Social cultural theorists state that learning is a social activity (Lave & Wenger, 1991). Participants in digital media studios learn alongside community members who include mentors, coaches, friends, and collaborators (Kafai & Resnick, 1996). As participants work on a task, roles are recreated as the space accommodates newcomers and the new knowledge and ideas that they bring. As more advanced participants teach newcomers the nature of the creative practices change as information is continually exchanged (Lave & Wenger, 1991).

Situated cognition is a theory that asserts that knowledge is situated and grounded in a particular context and that context is linked to the values and social aspects of a culture (Lave & Wenger, 1991). Situated cognition theorists state that because learning is closely linked to a cultural context, learners should be immersed in environments that resemble and provide as close as possible the context in which their new skills will be applied in the real world (Lave & Wenger, 1991). According to this theory, learning happens best when students are given opportunities to practice new skills in meaningful and authentic contexts. Digital media tools are important however it is not enough simply to use them. It is important that youth learn how to use digital media tools, within a

constructionist culture and environment that supports innovative thinking and the ability to engage meaningfully with their projects. In ARTLAB+ participants have the opportunity to engage in authentic digital media activities that resemble how they might use these tools in real world production contexts. The focus on digital media tools and artifacts in the studio and the flexible programming structure in lieu of a fixed curriculum allows participants the ability to direct their learning and follow their interests to build a personally meaningful project.

Participants construct objects and build projects because they are interesting to them. In a digital fabrication workshop students engaged in a personally meaningful activity by making key chains and nametags with which they could use to decorate their rooms and school materials (Blikstein, 2013). Students learned technical skills such as laser cutting (Blikstein, 2013). In a constructionist learning environment students interests drive the projects. This discussion of constructivism highlights the role it plays in the foundation of the growing field of digital media and learning. I next discuss multiliteracies to illustrate the different skills participants are using to engage with a variety of media in digital media studios.

### **Multiliteracies**

Multiliteracies is a pedagogy that teaches multiple literacies and emphasizes continuous inquiry and reflection of communication channels and new technologies (New London Group, 1996). The New London Group (1996) coined the term multiliteracies, which speaks to the multiple modes of literacies prevalent in the increasing diversity in



both local contexts of community life as well as the increased connections across global contexts (New London Group, 1996). With the ever increasing growth of technology, it is imperative to effective communication to be able to use multiple languages and communication channels. These include multimodal forms of expression that engage people in two or more modes of communication such as visually, aurally, or somatically, for example advertisements, posters, websites, and films (New London Group, 1996).

New Literacy Studies shifts from a view of literacy that is neutral, universal, and dominant in imposing Western conceptions of literacy onto other cultures to a model that takes into account the social practices of literacy, such as the social and cultural contexts in which literacy is performed (Street, 2005). This model offers a more broad and diverse set of literacies that takes into account the social conditions and cultural interpretations of literacy (Gee, 1996; Street, 2005).

Researchers are exploring the bridges between new literacies found in youth culture, particularly, afterschool centers, and academic literacies found in formal schooling, which includes being able to critically think, read, write, and speak in the classroom (Lee, 2007; Morrell & Duncan Andrade, 2004; Peppler, Warschauer, & Diazgranados, 2010). For example, Peppler et al. (2010) researched young people's knowledge of video games and how to use this knowledge to develop academic language literacy. Specifically, how the practice of critiquing game design promotes forms of academic literacy such as reflective analyses, stimulating discussion, articulating ideas, making an argument, and imagining other possibilities (Peppler et al., 2010). Scholars are

rethinking how we consider literacy and are calling for new approaches to learning in schools that address literacy in the context of new media (Broderick, 2014; Kalantzis & Cope, 2010; Neville, 2010; Walsh & Rowsell, 2011).

### **Participatory Cultures**

To ensure that young people benefit fully from the rich learning opportunities available in the world, learning scientists emphasize the importance of understanding new literacies as necessary to young people's ability to participate fully in all spheres of public, private, and economic life (Cazden, Cope, Fairclough, & Gee, 1996; Jenkins et al., 2007; New London Group, 1996). Researchers study how learners engage in participatory cultures (Gee, 2007; Ito et al., 2010; Jenkins, et al., 2007). James Gee highlights the construct of "affinity spaces." In participatory cultures, these are spaces that bring people together through common interests and projects that serve as bridges across differences such as race, age, gender, and educational level, as well as give opportunity for peer to peer teaching (Jenkins et al., 2009). Participatory culture is a "culture with low barriers to artistic expression and civic engagement, support for creating and sharing creations, and informal mentorship, where there is a sense of social connection among members" (Jenkins et al., 2009). In out-of-school learning spaces, participatory culture exists where young people are using multimodal literacies in innovative ways to make media, share ideas, and learn alongside peers and mentors (Broderick, 2014).

There are potential benefits of engaging in a participatory culture which include:

“opportunities for peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship” (Jenkins et al., 2006). This kind of participation steers away from a notion of individual accomplishment.

Participatory culture is grounded in social relationships and emerging cultural worlds where widespread participation flourishes and what each person brings to the table is considered and valued (Jenkins et al., 2006). Literacy scholars draw the link between these new approaches to learning and the skills needed in current and future workplaces which value creativity, innovation, problem solving, and risk taking (Broderick, 2014; Kalantzis & Cope, 2010).

There are new skills needed for the new and emerging literacies in the world. In order for young people to be full participants as makers of new media and to thrive in online and offline communities, educators must ensure students are equipped with a set of core cultural competencies that will prepare them for collaboration and networking in new media environments (Jenkins et al., 2006). These skills include: play, performance, simulation, appropriation, multitasking, distributed cognition, collective intelligence, judgment, transmedia navigation, networking, and negotiation (Jenkins et al., 2006). There is great opportunity in afterschool centers and informal learning environments to cultivate these new literacies. Additionally, the role of mentorship in youth digital media studios can play an important role in helping young people to learn new literacies.

## **Video Games: Learning in Participatory Cultures**

Qualitative studies indicate that the online participatory cultures that form around common teen interests such as games, fashion, and popular culture may support their engagement in civic and political life by developing their civic skills, sense of agency, and social networks (Ito et al., 2009; Jenkins, et al., 2007). As young people are learning in participatory cultures they are engaging and collaborating with their peers and mentors and gaining social capital. In participatory media spaces learners use technology to accomplish a task (Halverson, 2012). Similar to a constructivist learning environment where a problem or project drives the learning, in participatory media spaces the task drives how tools are used to solve or resolve a problem (Halverson, 2012). In the context of video games there is usually a series of tasks that the player must undertake in order to win the game and players must use different tools within their arsenal to do this.

Researchers have studied the learning that occurs when students actively and critically engage with and play video games (Gee, 2003). Researchers claim that the act of young people playing video games promote critical and active learning which are: learning to experience the world in a new way, getting the experience of collaborating with an affinity group, and developing resources for future learning and problem solving (Gee, 2003, pg. 47). Gee asserts that video games create a learning space where learners can take risks without the effects of real world consequences or in which real world consequences are lowered. There is a low cost of failure and the success outweighs the cost of losing a game because youth can try as many times as they want and potentially

win (Gee, 2003). Video games provide a space for young people to move through a social world in which they have a stake, try out different virtual personas, take risks, and learn through trial and error (Gee, 2003; Jenkins et al., 2006). In the context of ARTLAB+ video games are a popular teen activity.

### **Connected Learning**

Out-of-school learning environments are spaces where young people can learn new literacies and engage in participatory cultures (Jenkins, Ito, & boyd, 2015). There is a network of afterschool centers that give a physical space for teenagers to learn and build projects in digital media and pursue their interests alongside the support peers and caring adults. Connected learning, a theory grounded in larger bodies of research on how youth learn best with new technology and digital media, is one of the principles that guide the teaching and learning in afterschool digital media spaces (Ito et al., 2013).

Connected learning has three core values which are social connection, equity, and full participation (Ito et al., 2013). In order to realize these values, connected learning is guided by three learning principles which are peer supported, academically oriented, and interest-driven (Ito et al., 2013). And lastly, towards the design of creating learning environments that support these values and builds on the learning principles, connected learning takes up the design principles of: openly networked; where knowledge and information is shared openly and horizontally across participants, production centered, and shared purpose (Ito et al., 2013). In these environments, participants feel a sense of belonging and the ability to participate fully. This framework of learning recognizes the

gap present in the curriculum in schools and the interests and activities young people pursue in their lives outside of school (Ito et al., 2013).

Young people are learning and pursuing their interests in the context of rich social relationships supported by mentors, adults, peers, and institutional relationships. How do we connect all of these spaces where learning is demonstrated? How do we make sense of the ways that different relationships, ways of being, ways of communicating, and ways of thinking in, outside and between school, play, and home impact a young person's learning and identity?

Connected learning pulls together the different learning opportunities that occur throughout a young person's daily life. It all connects as each different sphere comes together to steer the development of a young person's interests and open up possibilities for what they might want to do in the future. Through leveraging the diverse forms of new media available, connected learning creates more entry points and pathways for young people to participate meaningfully in society (Ito et al., 2013). Furthermore, this framework makes use of already existing social, cultural, and technological networks that young people engage in (Ito et al., 2013). Connected learning builds on sociocultural theories of learning as young people work together with a shared purpose across age boundaries (Ito et al., 2013; Lave & Wenger, 1991). Connected learning also builds upon constructionist theories as one of the main principles is "learning by doing" where young people are challenged to explore, tinker, and hypothesize through their participation of meaningful projects (Ito, 2010; Papert, 1980).

In this section I reviewed the literature on constructionism, multiliteracies, participatory cultures, and connected learning as it relates to digital media and learning in ARTLAB+. There are statistics on the inequities in access and resources available to teenagers of color in the U.S. In order to participate fully in the digital culture, young people of all backgrounds must have the resources and pathways available to learn new skills and to thrive in online and offline communities. There is a need to understand how and what teens are learning in afterschool digital media studios and how these spaces are inclusive for all participants given the significance of the increasing technological age.

### **CHAPTER THREE: RESEARCH METHODS**

I use an instrumental case study methodology (Stake, 1995) for the purposes of highlighting how and what participants learn in ARTLAB+ and what features create or fail to create a radically inclusive environment for teenagers. I use an instrumental case study to understand youth learning in digital media studios. The design of instrumental case study is important to this study in providing insight into the larger field of digital media and learning as it pertains to teenagers. The activities and communities of the participants at ARTLAB+ act as functional boundaries (Stake, 1995) defining each case. Case study as a method fit for the purpose of understanding ARTLAB+ and how and what teens learn there.

#### **Site and Participant Selection**

I purposely selected ARTLAB+ for this study for a number of reasons. First, I want to understand how teens and what teens learn when working with digital media. ARTLAB+ hosts a variety of digital media tools as well as traditional art and maker tools and activities. Because of this range I believed the site would provide rich examples of teen learning. Second, ARTLAB+ is an afterschool digital media studio and the schedule and location was convenient with my work schedule allowing me to collect data during the hours of operations. Additionally, the teaching philosophy of HOMAGO was



something I wanted to explore further as I had gained an interest in constructionist learning theories after assisting on a research project involving makerspaces. In researching ARTLAB+ as a potential research site, I scheduled a meeting with then Director of Learning Programs and Digital Media, Ryan Hill, to learn more about the space and the teenagers who go there. On this initial visit, I saw the alignment of the space with my research questions and goals.

### **Description of ARTLAB+**

Housed within the Smithsonian museum in Southwest, Washington, D.C

ARTLAB+ offers free afterschool programming for teenagers to explore digital media and technical tools. Teens have access to resources such as mentors, professional technology, and art. ARTLAB+ is a drop-in space that offers structured workshops and non-structured Open Studio and Independent Studio time and space for teens. Students can come and go and frequent the studio as little or as often as they like.

Inherent to the instruction and teaching method of ARTLAB+ mentors is the Hanging out, Messing around, and Geeking out (HOMAGO) pedagogy (Ito, 2010). The laid back nature of ARTLAB+ which offers teenagers the freedom to explore their interests, learn the technological skills they want, and find out what is important to them is characteristic of the HOMAGO framework. All teenagers are welcome at ARTLAB+, as the website states that it strives to be a “radically inclusive” space. Teenagers ages 13-19 years old are welcome regardless of their experience level, time commitment, or educational background. Teenagers come from all over Washington, D.C and nearby

Maryland and North Virginia.

The mentors of ARTLAB+ are six team members with specific roles ranging from Manager of Digital Learning programs, to Cyber Navigator, to film, audience, and performance mentor. The portfolios, picture, and title of each team member are offered on the website. Two of the mentors have educational and career backgrounds in museum education and one mentor has experience as the Director of a gaming company that makes games for schools and museums. Foundations such as the MacArthur Foundation and the Smithsonian Institution provide funding to support the operations of ARTLAB+.

### **Internal Sampling**

I selected research participants based on the research questions and the theoretical framework. This study tended towards participants found validation of aspects of their identity in ARTLAB+. Teen participants were chosen based on their availability, frequency of their participation in ARTLAB+, and willingness to participate in an interview on learning at ARTLAB+. Additionally, I purposely chose participants who gave me a range of experience level with digital media as well as length of time spent participating at ARTLAB+. Because I wanted to understand how and what teens learn at ARTLAB+, I chose participants who provided variety in how they participated in the programs in the studio. My goal was to select at least two teen participants who came regularly to the studio and could give a detailed account of what they did in the space and why they came to ARTLAB+ to work on projects. I also wanted to interview teens who had less frequent attendance at ARTLAB+ as promotional documents described the

studio as a “afterschool drop-in digital media studio” and I wanted to get an idea of the experiences of teens who used the space to simply drop in every once in a while. I believed this variety of participants would give me a fuller understanding of ARTLAB+ as a whole (Stake, 1995). The selection process for youth participants was restricted to teens who regularly came to the space during the time that I was there which was from late September to mid-December of 2015.

I conducted semi-structured formal interviews with four teenage participants at ARTLAB+ who voluntarily participated in this study. Additionally, I informally interviewed and had conversations with five teen participants one of which was an alumnus of the program. I conducted formal semi-structured interviews with two artist mentors and conducted informal conversational interviews with two artist mentors. The semi-structured formal interviews were conducted using an interview protocol and followed ethical guidelines set forth by the Institutional Review Board at GMU (see Appendix B for interview protocol). Informed consent was obtained from all participants.

Teenage participants in this study are African-American. I interviewed two African-American girls and two African-American boys. The ages of the participants vary from 13-19. I initially set out to conduct two 45 minute to an hour long interviews with three to five teen participants which included one initial interview and then a follow up interview. However, there were limitations that I encountered that allowed me to do this. I conducted two interviews with one teen and one interview with three teens. Their interest in art and media varied, ranging from drawing and poetry/writing, audio

production, and game design.

I also interviewed two mentors who are white and observed four white mentors. In selecting mentors, I wanted to capture a range of artistic backgrounds. As my focus for this study was to understand how and what teens participants learn in ARTLAB+ I decided not to interview all mentors rather I selected two that provided a range of experiences and views. After observing the mentors for a roughly over two weeks I developed rapport with one mentor and observed her on multiple occasions working closely with teen participants. I noticed that this mentor appeared to have frequent interactions with the teens involving their creative projects. I noticed that two mentors were involved more in the game play environment of ARTLAB+ and the fourth mentor worked more at front area where students sign in/out and check out equipment. With the knowledge that mentor roles change over time, as the structure of the program changes, I took these observations during this time into consideration when selecting which mentors to interview. Therefore, the second mentor I selected was chosen from one of the two that were involved most frequently with the video game environment. I believe these two mentors; one that I observed working more closely with teens on games, and video games, and one that I observed working closely with teens on their independent projects during Open Studio would provide me with the greatest range.

Additionally, the mentors varied in relation to their time at ARTLAB+. One mentor had over one year's experience and second mentor was reaching her fourth year at ARTLAB+. I believed this variation could provide context of the history of the space in

comparing how ARTLAB+ has changed over time as well as the programmatic shifts that have led to the present moment.

The timing of the mentor interviews differed from the teen interviews in that I needed to work around the Open Studio schedule as one mentor that I interviewed expressed a “need to be available for the teens” (Christina, Interview). Therefore, I approached each mentor to see what time of day works best for them. I conducted one mentor interview in December during the hours of operation on a slow day. The second artist mentor interview was conducted after the studio had temporarily closed during the restructuring from December to March. We met on a weekday evening at a local cafe near ARTLAB+.

## **Data Collection**

**Access.** Over the course of six months, I regularly exchanged emails with the Manager and Director of Digital Learning Programs to propose the small scale research study and to see if conducting research at the site would be a possibility. Shortly after, I visited the studio to receive a tour of the space and to meet with the Direct of Digital Learning Programs where we discussed the programming and the goals of the study.

In September I received word from ARTLAB+ staff that I could begin the study. On October 28th 2015 I received approval from the IRB at GMU and that I could formally begin the study. Prior to that date I started to come into to the studio and conduct informal observations. During this time I was able to build rapport with the

mentors and establish friendly communication with the teen participants. My presence during this time helped me to slowly ease into the community at ARTLAB+. I collected participant observation data, interview data, audio clips, and photographs.

Table 1

*Data Sources*

<b>Data type</b>	<b>ARTLAB+</b>
Observation	88 hrs
Photos	12
Interviews	10
Field Notes	55 days
Website	Yes + blog

**Participant observation.** I began initial observations in late September, and more formal observations and interviews in mid-October. I came to the studio twice a week on Mondays and Wednesdays or alternately on Tuesdays and Thursdays from 4:30-7p.m. Beginning in November, I began coming in everyday from 4:30-7p.m. I conducted ten interviews with four students, two mentors, and one Director and conducted 98 hours of field observation. After a four week period during which I conducted participant observation I developed a better understanding of how the studio operates.

When I began fieldwork the studio was in a period of transition. With aims of restructuring the schedule and the programming, staff members scheduled to close the space from mid December 2015 to March 1st of 2016. During this time, mentors will

work on curriculum planning and organization of the flow of activities in the space. Teen voice played a major part in this restructuring as there were changes in teen participation and interests that the mentors noted. Specifically, teens became more interested in working on their own projects during Independent Studio and less interested in the structured workshops designed and led by mentors (Christina, Interview, 1/19/2015; Gabriel, Interview, 12/10/2015). Christina explains this shift:

Teens started developing these skills... so once they got to geeked out level they knew what they wanted to do and a lot of our workshops because we're drop-in we sort of have to have a low barrier to entry. I think teens were like well I'm working on a project already, I already know how to use that software that you're gonna be working with tonight so I'm just gonna stay with my own project. We found maybe this workshop thing isn't necessarily what we need to be doing. (Christina, Interview, 1/19/2015)

When the formal workshops were becoming less frequent during the months of mid-October, November, and December the programming consisted mainly of "Open Studio" time. Open Studio is a time where teens work on independent projects. Mentors were also piloting a new approach in response to the decrease in workshop participation called "blipshops." Blipshops are different from the typical workshops in that they are shorter in length, quick on the spot workshops, ranging from 30 minutes to an hour long, and are opportunities for teens to learn new software and skills. I will describe this in the following sections.



Most of my observations were of students participating in Open Studio. Each day varied somewhat in terms of activity, however, a typical day during Open Studio consists of teens participating in video game play by observing, playing, or waiting to play. On any given day there were three TV screen monitors where teens would gather around and play video games. Video game play was a consistent activity. Additionally during Open Studio teens worked on independent projects. These projects ranged from illustration, drawing and painting, to video, music making, and photography. Teens made use of the sound booth by signing up to use it in one hour period. Teens often socialized with their friends during Open Studio.

I collected observations on a composition notebook and recorded each field note under the date and wrote the time of day regularly. With the research question in mind of “how and what do teens learn at ARTLAB+?” I observed and paid attention to teen participation and activity in the space, interactions with mentors, and their approaches to projects. I took short notes during the Open Studio to prompt my recall and later fleshed out the notes using more in-depth descriptions. These descriptive narrative accounts were written later that evening or early the next morning.

After each observation period, I wrote interpretive memos (Bogdan and Biklen, 2007) to assess my thoughts and reflections from being in the studio and how my thoughts might affect the meaning I draw from the observation and interview data. These memos included my interpretations of the day's event, documentation of any bias (assumptions and projections), documentation of themes and patterns that I began to notice, and plans

on what to focus on for the next observation period. These observations are recorded by date and time. In these sections I also recorded my ideas and speculations. Any images, interactions or words that were striking to me I recorded. Similarly, if I noticed a repetition or similar incident I recorded this. I recorded events and moments that left an impression on me or made me feel strongly. Periodically, every week or so, I would write three or four paragraph reflections on what I was learning and observing. I used an informal style when writing these memos in order to let my thoughts and ideas flow freely (Bogdan & Biklen, 2007). These memos provided me with footing and a starting place on more formal data analysis.

At certain periods during the observation, I would ask mentors or participants to clarify a word or action I was not familiar with. I also asked mentors questions to gain clarity around games, announcements, and events that I was not familiar with or to gain understanding of why something was happening at a certain time. I also turned to literature and research articles, specifically those that used case study methodology in an urban setting focusing on teenagers and learning in digital media studios. I turned to articles that I thought were potentially relevant to my study. At the time I initially thought to use Lave and Wenger's community of practice theoretical framework, however over the course of participant observation I started to consider the theoretical framework of Hanging Out, Messing Around, and Geeking Out (HOMAGO) (Ito, 2010).

**Semi-Structured interviews.** In mid-November 2015 I began interviewing teens. Before interviewing I gave a brief introduction of myself, went over the purpose of the research study, and reviewed ethical considerations. I approached these interviews after having spent time observing the participants in the space and also with the research questions in mind.

The interview protocol included 17 questions (see Appendix B). I intended to leave space for participant responses to lead the direction of the interview as well as prompts in the case that there was silence. For the first two interviews I conducted with a teen, our interview followed closely the semi-structured interview protocol. As time went on, I began to let go some of the control of the interview protocol and allowed the shape of natural conversation to inform the flow of the interview which became more participant led. Additionally, I realized that some of my ideas about ARTLAB+ and the activities there might not be in alignment with what actually happens. As time went on the observations showed me new and interesting phenomena that went outside of the ideas I held previously. I paid attention to words and phrases that I was unfamiliar with that came up during observation and in interviews. For example, *leveling up*, *bodied*, *geeked out*, were terms I heard repeatedly from teen participants and mentors. In subsequent interviews I followed up on what these terms mean.

I aimed to get a sense of the workshops through the interviews such as what happened during the workshops, who participated, and what the teens thought of them. I asked teens questions such as “what are you working on?,” “how did you start that

project?” and “tell me about a workshop you participated in.” If a teen began coming after the workshops ended, I asked them to “tell me what it was like when you first started coming” or “what kind of activities were going on at ARTLAB+ during your first few days?”

As I transcribed these interviews I gave up the use of terms I had become familiar with during the literature review, such as “self-directed” and “motivated” and took up the language the participants put forth, thus privileging their phrases and words over my ideas about what I thought happens in the studio. If I did not understand something a participant said, I would say “can you tell me more about that.” I took steps such as this to avoid bias in order to protect the validity of the study. I realized that following a response that didn’t initially make sense to me with a broad open ended clarifying question would be an effective way to gain clarification and to bring deeper understanding to what the participant was communicating, as my goal was to understand the experiences of each participant in their own words. (Miles, Huberman, & Saldaña, 2013).

I recorded these interviews using a voice recorder on my iPhone 4. Immediately or within 48 hours after interviewing I transcribed the interview. Before and after each interview, I wrote observations and first impressions, as well as descriptions of the setting, the participants’ actions and any tasks or activities or people they were engaged with. When transcribing, I noted moments of laughter, pauses, hand movements and other types of nonverbal communication, as well as any interruptions or distractions coming

from outside the interview to further give context and to create a more vivid picture of the personality of each participant.

After interviews with each participant, I looked for evidence during observations that could disconfirm emerging themes and patterns (Miles et al., 2013; Stake, 1995). The purpose of the second interview was to follow up on the teens' work, their ideas from their projects, and any changes that might have developed since the last interview. I also wanted to further probe into any themes, issues, and areas of interest or importance to the teens that became apparent during the first interview. Although I conducted one follow-up interview with one teen, I made effort to hone in on the teens I was not able to conduct a second interview with during the observations. In between interviews, I went over the transcribed first interview to look for areas I wanted to further understand such as the progress of their project, any present or future collaborations with other teens, their plans after the space temporarily closes, and future plans when it reopens, as well as goals or plans for future projects and actions steps regarding school. I brought in excerpts from the first interview as well as observations notes to match with follow up questions. Additionally, I asked clarifying questions to gather meaning of words, phrases and ideas.

Additional data includes photo and audio documentation of teen projects, digital media activities, and mentor-teen interactions. For example, I recorded a production team meeting that took place in the studio. I also collected supplemental information via ARTLAB+s website and blog. Through the online presence I collected and analyzed video's, blog posts written by teens and mentors, and photographs.

## **Data Analysis**

In order to analyze data, I bound the case by its site, the activities, and the communities within ARTLAB+ (Stake, 1995). I wanted to develop an in depth understanding of the studio, how and what teens learn there, and the features that create a learning environment. My goal was to provide descriptive accounts of what takes place there and to seek out all sources that would lead me to deeper understanding of ARTLAB+ (Stake, 1995). In the initial stages of data collection, I developed a matrix of sources to organize the materials by type (Creswell, 2015). Data analysis was iterative and took place over the course of the study. I focused on the nature of participation in activities and the language participants use to speak about their participation. I focused on the analytic processes of learning, teen relationships, and mentor teen relationships, and the environment in the studio.

I used the qualitative techniques outlined by Miles et al., (2013) to analyze the data as well as to guide the organization of data collection. I used in vivo coding and values coding (Miles et al., 2013). Values reflect participants' values, attitudes, and beliefs (Miles et al., 2013). As this study explores learning and participant experiences and actions in ARTLAB+, I found this method of coding to be appropriate (Miles et al., 2013). I utilized in vivo coding to represent the participant's own language in the data, particularly as this study focuses on the experiences of teens and honors teen voice and how they learn in ARTLAB+ (Miles et al., 2013). I used deductive coding in which I generated a small list of codes from the conceptual framework and the research questions.

These codes include: learning process, environment of ARTLAB+, tools, activities, and mentor teen relationships.

Following Miles et al., (2013) coding methods, I completed several rounds of coding. In first cycle coding, I went through the interview data line by line and coded using in vivo, values coding, and descriptive coding (Miles et al., 2013) Once I had generated a list of codes from this initial cycle, I went through interview data and refined the coding list in order to eliminate any redundancy. For example, the code “instruments” became a code for ‘tools.’ With this initial coding completed I moved onto second cycle coding. In this stage I grouped the long list of initial codes into clusters or groups of similar codes (Miles et al., 2013). Once I had developed the clusters into roughly eight categories or pattern codes that made sense, I then organized the pattern codes into matrices following the guidelines of Miles et al. From this analysis four large categories about teen learning emerged: ARTLAB+ physical and emotional environment, teen processes (creative and learning), relationships, and radical inclusivity.

Teens describe the *physical and emotional environment* of the studio and what it feels like to be in the space. Teens have different approaches in their *creative processes* and as well as differences in how and what they learn in ARTLAB+. There are *mentor and teen relationships* and *friendships* that develop in ARTLAB+ as well as *relationships that teens have with adults* outside of the studio including family members and teachers and counselors at school. Mentors intentionally create programs that have features of an *inclusive* learning environment.

## **Ethical Considerations**

Attention was paid to protecting the confidentiality and privacy of each participant. I approached the interviews and observations with respect, paying attention especially to the teen participants by repeatedly checking in to ask if “are we good on time?” and when near the 60 minute mark, asking if “is it okay to ask another question?” or “let me know if you need to go.”

In approaching participants, I observed teens during Open Studio and after introducing myself, asking if they were interested in participating in an interview about how people learn in ARTLAB+. I was general in the introduction in order to allow participants to feel comfortable letting the interview flow into whatever direction it went. I took care to respect the time and space of each participant. For example, if I approached a student with an interest in interviewing them and they responded with “can we do it later?” or “I’m not sure, will you be here tomorrow?” I did not push the matter.

To record data I kept a composition notebook and recorded each field note under the date, and wrote the time of day regularly. I took short notes during the workshop to prompt my recall and later following the workshop fleshed out the notes using more in-depth descriptions. These descriptive narrative accounts were usually written later that evening or early the next morning.

## **Research Validity**

Descriptive validity was improved by purposeful sampling and carefully documenting the data which included audio recordings and full transcriptions of some of



the data (Maxwell, 2013). I used data matrices and data displays as an analytic tool to look for commonalities and differences among the data (Maxwell, 2013). To inform my analyses in an ongoing way, I used the input of the committee members and the committee chair, the members of which are experts in learning theories, informal learning, STEM education, and digital media and learning and makerspaces (Maxwell, 2013). Participant selection focused on participants who were interested in pursuing digital media related activities and careers opposed to others who did not find this validation of an aspect of their identity. In addition, I increased validity by conducting both interviews and participant observations.

It was important for me to be aware of my own values and expectations of the study as well as my goals and preconceptions (Maxwell, 2013). I reduced bias through recording field notes which included a reflection of my own subjectivity and deliberating as I voiced any of my own prejudices and assumptions (Bogden & Bilken, 2007). As it is futile to rule completely eliminate my beliefs and perceptual lens, my goal was to avoid the negative consequences of how my personal values and expectations may influence the study (Maxwell, 2013).

To address reactivity, I focused on asking open ended questions and avoided asking leading questions (Maxwell, 2013). To account for any influence my presence had on the participants, I conducted visits prior to the start of the study, specifically before data was collected, in order to get to know, informally observe, and become familiar with the space and the people within it (Maxwell, 2013). This longer involvement and

acclimatization with the participants strived to reduce reactivity (Maxwell, 2013)

## CHAPTER FOUR: FINDINGS

First, I will give a narrative description of ARTLAB+ based on observation field notes, interview data, and online sources. The purpose is to give an overview of the space including: geographical location, design of the space, digital media tools and equipment, people, collaborators, as well as the emotional environment and atmosphere at ARTLAB+. Then, I will give accounts of the relationships of the teens at ARTLAB+, the learning process, the creative process, and the features of radical inclusivity at ARTLAB+. I present the findings of this study using Studio Thinking and HOMAGO as theoretical frameworks. Finally, I draw conclusions from these findings and discuss the implications for future research on digital media and learning.

### **ARTLAB+ Physical Environment**

To get to ARTLAB+, I first traverse to the Hirshhorn Plaza located in the Hirshhorn Museum and Sculpture Garden on the National Mall on 700 Independence Ave in Southwest D.C. The Hirshhorn is known for its emphasis and exhibits on modern and contemporary art. There are pedestrians walking by, people pausing to take pictures, runners jogging along the sidewalks, and people and families of all ages in the area. It comes to my attention the space is underground, which I wasn't aware of. After walking around for a bit I notice a stairwell that leads to the Sculpture Garden. I walk down the

steps and enter the Sculpture Garden which is a large grassy area with bronze sculptures and models of different shapes, sizes, and forms. As I walk through the garden and down a ramp that leads to an even lower level I am surrounded by greenery. True to its name a garden with plants and flowers and trellis decorating the sculptures, the railings, and everywhere I look. It reminds me of a large rectangular open air park.

The Sculpture Garden is quieter than the other places on the Mall. When I reach the lower level, directly in front of me is a large triangular sculpture at least 8 or 10 feet tall composed on one side of glass and the other side of wooden lattice. To my left is ARTLAB+. This sculpture stands out to me from all the other sculptures in the garden as it is made of glass. People can stand inside the triangular space and see out. In this way the sculpture encourages participation.

The fact that this is placed directly in front of the entrance to an afterschool digital media studio for teenagers is striking to me and I cannot tell why. I think it is because the sculpture encourages participation. The sculpture comes alive by the interaction and involvement of the people who come and go.

I spot the ARTLAB+ studio to my left and walk in. To get in I try to open the door and realize I must need a badge or to be let in by someone inside as the door is locked. Inside, a security guard who has a table and a chair by the entrance gets up, opens the door, and lets me in. He asks me if he can search my bag. I place my bag on the desk in front of him while he searches through the compartments. He gives me my bag back and I am greeted warmly and with a smile by Mentor Christina who introduces herself

and offers to show me around and give me a tour.

The lead mentor, who is my contact at ARTLAB+ and the person that I communicated with to discuss the details of this research study, is out that day. While Christina and I are walking, I talk with her about the nature of the study, the purpose of it, how I found out about ARTLAB+, and her role.

What immediately stands out is the fact that ARTLAB+ is an open space. The main colors that jump out to me are orange and blue. The walls are orange with tan sidings. Along the sides of the studio are six desktop Mac computers on tables, three on each side. There are four work tables in the center of the room. Teens play video games on three large TVs which are positioned and spread out in three areas: at the entrance, in the middle of the space on the left side, and towards the back in front of the recording studio. The recording studio is in the back of the space and in front of the restrooms. At the very back, behind the recording studio is a storage room which houses extra furniture and cardboard boxes of temporarily unused or in need of repair digital media equipment. Besides the back room and the restroom, the recording studio is the only space in the studio which has a door.

Along the left wall is a monthly calendar on a whiteboard indicating special events, hours of programming, and workshops. Next to the calendar, on the same whiteboard, is a space where participants can sign up for Independent Studio. The whiteboard reads:

1. “Things to keep in mind when signing up for a workshop

2. Sign up before 4:45pm
3. Ask a mentor to sign you up.
4. Be on task.
5. When finished with the project, join the workshop
6. Have fun”

The words “on task” and “goals” are posted below these five items on the whiteboard. On this same wall are certifications which are documents that assess teen skills in an area of digital media and are completed by a series of tasks. These allow teens to utilize certain equipment in ARTLAB+. Certifications are displayed categorically and hang on corkboard visible at eye level.

Works of art decorate the walls of ARTLAB+ including paintings and illustrations by mentors and teen participants. There are big blue comfy lounge like couches in front of the three TV’s. Near the front desk there is a scanner and a copier machine.

The Cyber Navigator's desk is at the front of the studio. The Cyber Navigator is a mentor who greets teens as they come in and depart, records participants attendance, monitors the checking in and out of equipment, keep files of student data, organizes equipment, assists with updating the social media, and other administrative tasks that keep the studio running smoothly.

This front desk is on the right side in front of locked cabinets that store most of the digital media tools and resources. Inside these cabinets include equipment such as

DSLR cameras, camera lenses, tripod stands, audio production equipment, Wacom tablets, keyboards, voice recorders, headphones, iPads, video games for Wii and Playstation 3, Macbook laptops with a host of creative and design applications such as Adobe Creative Suite, Maya, Garageband, Sculpttris, Meshmixer, Photoshop, and Autodesk. In the unlocked cabinets in the back of the studio there is a sewing machine, boxes of cloth, a button maker, and books on topics ranging from design and illustration to art history. There are four 3D printers in the space. Towards the front, near calendar is another set of file cabinets which that store markers, pens, pencils, and construction paper.

There are not designated spaces in ARTLAB+. There are spaces where teens typically play video games. There is the sound booth in the back area. There are the computers and the open tables. However, one can explore a wide variety of media at the desk top computers. One can work on button making, zine making, sewing, and a number of other projects at the open tables. The set-up and arrangement of furniture is versatile. This encourages the fluid nature of teens and mentors moving swiftly from one project or idea to the next. Additionally, the non-labeled spaces provide opportunities for teens to create them as they wish. An illustration table, a zine making station, a video game design area, a DJ'ing area, and so forth are a part of the space. This openness of design allows for possibilities to emerge in new and unanticipated ways. The space also allows for collaboration and peer to peer learning as someone playing video games is nearby to someone creating animations on a Wacom tablet.

As a Museum “digital drop-in studio,” ARTLAB+ invites teens daily from 4:00pm-8:00pm to “socialize with their peers, learn to use digital media, and participate in workshops to develop professional-level skills” in an afterschool informal learning environment. ARTLAB+ is specifically designed for teenage participants ages 13-19 that are local to the DMV area. While ARTLAB+ is within the grounds of the Hirshhorn Museum and Sculpture Garden, its programming extends beyond the walls of the space to reach teens and the larger public through outreach programs and collaborations with other like-minded youth art organizations in D.C as well as other museums within the Smithsonian Institution.



**Institutional structure: community of practice.** ARTLAB+ is part of the Smithsonian Institution and thus part of a larger institutional network. Visitors from other museums within the Smithsonian occasionally come to ARTLAB+ to tour the space. Additionally, participants at ARTLAB+ will partner and collaborate on projects with museums within the Institution. For example, ARTLAB+ collaborated with the Smithsonian National Museum of Natural History on a zine making project. There was collaboration between ARTLAB+ and the Freer|Sackler on a two-session, experimental audio-recording workshop inspired by artwork in one of the exhibits involving soundscapes. ARTLAB+ collaborated with the NMNH on a four-day workshop series where teens used microscopes and items from NMNH collections as their subject to create their own microphotographs. ARTLAB+ has also done a teen art-science workshop in collaboration with Q?rius at the NMNH where teens explored different kinds of bugs and then created their own robotic or moving bug creature using small motors, LED lights, aluminum, leather and other materials.

ARTLAB+ builds community on a micro-level among teen participants, artist mentors, staff, and collaborators within the Smithsonian Institution. ARTLAB+ is also part of a larger community which exists at a macro-level with other youth art and digital media organizations in D.C such as Words, Beats, and Life. This larger infrastructure of micro- and macro-level partnerships provides opportunities for collaboration as well as learning opportunities for teens.

Mentor Christina describes these partnerships as a “community of practice” which ARTLAB+ is a part of. The idea is to link up to together to create a network with other youth art organizations. This network serves the purpose of taking up opportunities when they arise and to share resources among other organizations in the network as well as to collaborate. If there is a show or an event coming up ARTLAB+ mentors can share this information with the teens (Christina, Interview, 1/19/2015). This network of youth art organizations is related to the community of practice described by Lave and Wenger (1991). They are a collective who interacts regularly and comes together to learn around a shared domain in order to build a stronger practice (Lave and Wenger, 1991).

Deciding what organizations to partner up with is based on timing and availability. Additionally, if the organization is a “like minded” organization that serves teens or is an after school organization, and in alignment with the mission of ARTLAB+, they will try to collaborate (Christina, Interview, 1/19/2015). Funding is a big part of these community partnerships as Christina mentions (Christina, Interview, 1/19/2015). If the organization is willing to put funds towards hiring ARTLAB+ staff and time then there is a greater chance of collaboration.

There are music, dance, and other artistic events and performances that take place at the Hirshhorn Museum. Mentors may call on teens to participate in production teams which might take place outside the digital media studio and on the grounds outside the Hirshhorn Museum. These collaborations provide opportunity for the youth to participate in a larger community with other individuals in the Smithsonian and beyond.

**Programming.** The regular programs that exist in ARTLAB+ are Open Studio, Independent Studio, and workshops. Open Studio is a time where participants can come in and hang out, try new digital media tools, and work with mentors. It is similar to Independent Studio in that youth are free to pursue what it is they wish to work on. However, Independent Studio differs from Open Studio as Independent Studio is more project-oriented where Open Studio is more loosely structured. If a teen has a project in mind, and possibly a goal they might choose Independent Studio to work on the project independently. In October 2015 the program was undergoing changes to the workshops. However, in September and prior, workshops took place every day. For example, there were Makin' Mondays, Photo Design Tuesday's, Game Design Wednesday's, Audio Thursday's, and 3D Fridays.

Mentors pay attention to changes in teen interests and revise programming accordingly. In October 2015 mentors took a break from offering workshops as they noted teen attendance in workshops was slowing down. As a response to the changing interests of teens, ARTLAB+ was gearing up for a restructuring of programming and the space was set to close from December to February. During this time, mentors came together during meetings to discuss changes to the program. In October, mentors began to pilot "blipshops" instead of offering daily workshops. Mentor, Christina, the primary video and photography mentor, who later transitioned to being the lead mentor, elaborates what blipshops are:

It's like hey we're gonna do Garageband tonight. If you're curious about audio and you've always wanted to try, jump on board! If not, keep doing what you're doing. Or tonight we're gonna watch some music videos and we're gonna talk about them and maybe gender roles or something like that. (Christina, Interview, 1/19/2015)

However, the idea to practice blipshops during this time changed as well, once the mentors observed what teens were interested in:

We're supposed to be piloting them right now, based on the teens in the space but we're finding out it's better to work one on one with the teens. We're gonna take this time and examine the teens, identify what they want, pay attention to what they seem to be interested in, and see what we're going to do. (Christina, Interview, 1/19/2015).

ARTLAB+ staff have to be flexible in adapting the programs to suit teen interest, so that they may keep up with them and sustain participation. Christina describes the balancing act in creating workshop schedules:

I want to make sure the blipshop schedule works for the teens. Before we always did audio on Thursday nights and 3D on Friday nights. Well if a teen can't make it on Thursday night and they're interested in audio it was hard for them to come. Now, if we do an audio workshop on a Tuesday next time we'll do one on a Friday. We're modeling it after a gym schedule. (Christina, Interview, 1/19/2016).

I met with Christina after the winter break and learned about future initiatives at

ARTLAB+ and the changes in the structure of programming:

It'll be a little bit different because a teen will sign up to do a bigger workshop project. So that means they might come in for four sessions as opposed to whenever they want. This is them signing up and making a short film. Or learning how to produce a song from start to finish. Rather than just okay, you have your lyrics, go in the booth, record. And actually work with them on these art forms. (Christina, Interview, 1/19/2015).

## **Atmosphere in ARTLAB+**

**Fun and exciting.** As important as the physical environment and programming offered at ARTLAB+ is for building community so too is the social and emotional atmosphere. How the mentors and teens interact with each other create the conditions for a fun and exciting place in which participants can play, create digital media projects, and act and speak how they might outside of the studio. For example, during one of my first visits to the space I witnessed dancing. I see a young man dancing right outside the studio to music blaring from speakers. The style of dance is fluid and akin to popular street dancers in D.C. He has a blonde curly afro and is dressed in a gray sweatshirt, loose jeans, and a shirt wrapped around his waist. He later walks in, signs in, and signs up to use the sound booth under the independent studio sign up board. The project is labeled “dance” and with goal it says “rehearsal.” Mentors allow teens to play music from their phones and laptops without using speakers. Teens frequently dance, play music, and play video and card games in the studio. There is a lot of movement in the space; teens walk around and run from one area of the studio to another engaging in activities. I immediately feel that there is an energy of fun.

Teens describe the environment in ARTLAB+ and how it feels to be in the space. Each teen that I spoke with formally and informally expressed the feeling of fun that pervades the space and their desire to come to ARTLAB+. For example, one teen, Trey, describes ARTLAB+ as “friendly, fun, and relaxed” (Trey, Interview, 10/13/2015). Denitra, a teen that comes on a regular basis to work on her music, says that she loves

ARTLAB+ because of how “pumped up it is” (Denitra, Interview, 11/11/2015). Another teen, Jordan, exclaims that ARTLAB+ “is really fantastic” and that this place is “the best” (Jordan, Interview, 11/18/2015). Jordan states that there are a variety of things to do at ARTLAB+ (Jordan, Interview, 11/18/2015). During a teen interview video series, one teen describes ARTLAB+ as a “once in a lifetime opportunity instead of doing something else” (ARTLAB+ underground). A high school student intern on the ARTLAB+ blog describes the reason why she choose ARTLAB+ for her internship: “I specifically picked ARTLAB+ for my internship location because I know that the environment and energy that is ARTLAB+ is a model of what I wish high school’s environment and energy were like” (Millah, 2014).

Similarly, mentors believe that fun is an important quality at ARTLAB+. Mentor Gabriel stresses the importance of play: “that’s the whole idea to play and to have fun, it’s what makerspaces should be, the idea of play” (Gabriel, Interview, 12/10/2015). Adults join teens in the desire to play and to have fun in the space. I often observed teens and mentors gather around the TV screens playing video games, completely immersed in them. Gabriel describes what it is like to be at ARTLAB+: “really fun” and “really exciting. Makes my job awesome. It’s nice to work somewhere where the people coming actually wanna be here” (Gabriel, Interview, 12/10/2015).

There is a link to the fun atmosphere at ARTLAB+ and the instructional style that mentors employ. Mentors interact with teens in a way that prioritizes fun. For example, mentor Christina describes how “it’s not fun when somebody tries to tell you how to

learn” and goes on to say that “at ARTLAB+ we are totally hands off and we’ll have a lot of fun” (Christina, Interview, 1/19/2015). For the mentors, having fun creates an environment that is hands off enough that teens have the space to learn for themselves. One teens Trey, illustrates this point: “we actually want to learn most of the time because the mentors here will make it something fun to learn” (Trey, 11/12/15, Interview). He goes on to say that: “it’s mostly fun because, they kinda help you, challenge you to learn on your own sometimes. And it’s just fun learning something on your own, to me, it’s fun” (Trey, 11/12/15, Interview). Having this space creates opportunities for teens to imagine new possibilities that can exist. Ryan Hill elucidates further on the vision of the space “from early on, fun was always a big part of what ARTLAB+ had to be” (Ryan, Interview, 06/02/2016). The fun and the not knowing what is going to happen next are the “aspects that the mentors bring” (Ryan, Interview, 06/02/2016).

The environment of fun and friendly is a fertile ground for learning experiences to form and for relationships to take shape. In addition to fun, there is also a sense of excitement about the studio. After ARTLAB+ closed for the winter break staff convened to discuss and plan the restructuring of programs. Christina speaks about the new programming that staff will offer to teens: “I’m excited to have these registration based things, it’ll be really cool” (Christina, Interview, 1/19/2015).



**Appreciation ethic.** There is a sense of appreciation the teens and mentors express about ARTLAB+ that permeates the space. This stems from a distinct sense of excitement and enthusiasm that each teen and mentor describe about the space. The sense of joy expands to what an outsider such as me might interpret as a genuine feeling of love and appreciation for the people in the space and for the work that they are all doing.

In an interview that ran longer than planned Christina interjects: “I don’t mind. I love talking about ARTLAB+” (Christina, Interview, 1/19/2015). Similarly, Gabriel expresses that “it’s nice to work somewhere where the people coming actually wanna be here” (Gabriel, Interview, ). There is appreciation between the mentors as Christina speaks about a mentor who has recently left ARTLAB+ to build a makerspace in South Korea: “I hope she comes back, I want her to come back, really really badly, because she knows ARTLAB+ in and out” (Christina, Interview, 1/19/2015).

In addition, I observed and heard uplifting and respectful speech among mentors and teens and between teens. I observed teens bringing their friends food from outside the space. Often, I saw teens walk in and hug each other. The boys gave each other daps, handshakes, and/or hugs. Daps are a sign of respect among African American youth, usually among males, which is performed by knocking their fists together when greeting. Teens would put their arms around each other when standing up watching video gamers play. Teens asked other teens for help; teens that they may or may not have been friends with. I saw and heard teens comment positively on each other’s artwork.

This is not to say that there are not bumps along the way and that the space is devoid of possible disagreements and bullying among the teens. I saw discipline in the form of mentors asking the teens to stop talking during announcements. Christina states that there is “very little aggression” (Christina, Interview, 1/19/2016). And, that mentors have seen bullying at times but as Christina says “for the most part teens are really supportive” (Christina, Interview, 1/19/2016). There were some instances of friction among teens. For example, Jordan describes a moment of criticism with a peer: “Don’t say my work is garbage. I do my best. So I was like don’t criticize, don’t be jealous, you’re not doing it.” (Jordan, Interview, 12/8/2016). Additionally, the joking and playing on the part of the teens would at times eclipse into criticizing comments. For example, I worked with a teen in the process of getting certified for DSLR camera safety. The boy was with two friends, one of who was a regular at ARTLAB+. The teens first asked me if I could take their photo as they wanted professional looking photos for their music projects. I obliged and as we are coming back inside one of the teens encourages his friend to get certified so that he can take the photos himself without asking a mentor. He says “you can do it today. You can get certified and use the DSLR camera’s today.” The teen walks over, grabs the cert off the wall, and comes back to ask a mentor about the certification process. As he is going through the steps which involve learning the different parts of the DSLR camera including lens, power switch, aperture button and so forth, his friends remark, “you don’t know what all that means.” He replies, “I DO know what they mean.” The teasing continues as his friends joke about him not getting certified

and their disbelief in him knowing the parts of the camera and being able to learn the parts in order to get certified. While there are exceptions to ARTLAB+ being primarily a fun and positive place for teens, I saw these incidents as minor in relation to the overall atmosphere of the space in which fun and excitement permeate. In addition, I give this example to illustrate that there is complexity in the studio and asymmetries of power and moments where teens may demonstrate disrespect, joking, and teasing.

There is a community here as the mentors and teens produce sustainable relationships. I define community as participants coming together with shared interests and a common purpose with an interest in building relationships. This is evidenced by the length of the mentor's time working at ARTLAB+ and the number of "regular" teens returning to the studio again and again. The former Director of Digital Learning Programs, Ryan Hill, fleshes out the community aspect at ARTLAB+: "it's not just community of teens, but also community of mentors and how they feel about each other" (Ryan, Interview, 06/02/2016).

**Comfortable.** It is no surprise then that in such a fun space where people are generally feeling excited is also a space where people feel comfortable. Several teens describe feeling "comfortable" and "at home" in ARTLAB+ (Denitra, Interview, 11/11/2015; Jordan, Interview, 11/18/2015). This is consistent with homesteading theory in which young people find places within their geographic locations, outside the realms of formal schooling, to craft spaces where they find peace, fellowship, and identity work (Fine, Weis, Centrie, & Roberts, 2000). These spaces offer rest from stresses of life,

where young people may oppose stereotypes, and have the capacity to create new identities for themselves (Fine et al., 2000). Denitra describes how she is “able to do what she loves to do” (Denitra, Interview, 11/11/2015). Particularly, in the studio, Denitra notes feeling “at home” and compares being in the studio to “heaven” (Denitra, Interview, 11/11/2015). I saw Denitra at ARTLAB+ most days that I was there which was usually four days out of the week. Jordan also describes feeling comfortable in the recording studio: “I spend the night here and work and make music all day” (Jordan, Interview, 11/18/2015).

Other teens expressed feeling comfortable and a sense of belonging at ARTLAB+. Trey also expresses feeling relaxed in ARTLAB+:

It’s just rather relaxing here so it’s easier to come up with ideas. Rather than when I’m home and I’m either stressing about college or stressing about trying to get a job. Here I can really just relax and actually just get my thoughts in line. (Trey, 11/12/15, Interview).

The feeling of safety within the surrounding area outside of ARTLAB+ contributes to how teens feel inside the space: “it’s really safe around here. No kids looking to start a fight. Safe. I feel comfortable” (Jordan, Interview, 11/18/2015).

Another teen during an ARTLAB+ teen interview video series expands on this sense of safe harbor: “I just love how it is here. It’s so diverse. It’s a free environment where I can truly be myself” (ARTLAB+ underground). Beatrice adds: “this is the only place I feel accepted” (Beatrice, Interview, 12/7/2015).

It takes a while to become comfortable. Although Denitra later felt at home, she recalls her first day at ARTLAB+ as “nerve wracking” and seeing lots of “new faces” (Denitra, Interview, 11/11/2015). This is similar to Beatrice’s account of her first time at ARTLAB+. She describes how she liked ARTLAB+ “a lot and wouldn’t go away” however at first she didn’t want to participate in workshops because she was “shy” (Beatrice, Interview, 12/7/2015) Both Denitra and Beatrice express feeling shy and nervous during their first time at ARTLAB+, however, over time they became more comfortable in the space. Starting off feeling shy, and thinking to herself “what is everyone else doing?” she says that participating in workshops helped her to be a lot more comfortable is “not so afraid to yell across the room and be weird” (Beatrice, Interview, 12/7/2015).

Being comfortable in a space denotes a feeling of being able to come and be as you are. Teens are able to talk freely with the exception that they do not swear or yell. They can play their music at a loud level. Teens joke and play openly. There are not the typical restrictions placed on teens that might be found in more formal learning environments.

A sense of acceptance, belonging, and comfort do not mean the space and interactions within it are without tension. Beatrice’s claim about ARTLAB+ being the only place where she feels accepted came after an interaction where she was being reprimanded for her tone. The mentor approached her to request that she treat people respectfully while in ARTLAB+. Beatrice said that she wanted to be left alone and then

said the above quote. I was not clear on what exactly happened before this interactions however I noticed a tension between providing a space for teens such as Beatrice to come to and to belong and then having boundaries and holding participants at ARTLAB+ accountable to standards such as kindness and respect.

**“Safe” space.** The comfortable feeling teens express in ARTLAB+ create pictures of security and freedom from harm. Similar to the feeling of being a sanctuary, ARTLAB+ participants consider the space to be a refuge: “I always needed a place where I can make songs. It kept me out of trouble too” (Deming, 2015). Freedom of expression is important as another teen describes “it makes me feel safe, it makes me feel that I can actually express how I really am” (Deming, 2015). Another participant describes the space as “distraction free and educational where I actually want to learn. Here I can relax and get my thoughts in line” (Trey, Interview, 10/13/2015). The setup of the space in terms of furniture, media equipment, and structure of programming encourage teens to let their diversity of experiences and interests “function and flourish” (Ryan, Interview, 06/02/2016).

The mentors intentionally create this environment. The conditions for creative expression, fun, relaxation, and excitement are linked to the mentors instructional styles. For instance, Christina describes how she does not want the teens to be “embarrassed” and that this is important. She says “this is why we try to cultivate that safe space. Safe doesn’t mean we have a security guard so you’re safe, safe is it’s safe to mess up and

express yourself without fear” (Christina, Interview, 1/19/2016).

The mentors want to create a space that is psychologically and emotionally safe in feeling free to mess up without fear of judgment or ridicule as well as a physically safe place where participants’ belongings are safe and they are free from harm. To assist in this effort mentors create boundaries and codes of conduct at ARTLAB+: “we tolerate a lot but we don’t tolerate disrespect or people making fun of other people for what they’re doing, as soon as you call someone a name or make fun of them, I have none of that” (Christina, Interview, 1/19/2016). The mentors communicate the codes of conduct that the teens are held to and what they do and do not accept as far as actions and language from the teens.

ARTLAB+ is a space that serves diverse teenagers. Some of the teenagers are coming from parts of D.C where one staff member says: “they might feel the need to carry knives for protection” (Ryan, Interview, 06/02/2016). Ryan Hill explains the context for discussions around safety when ARTLAB+ first opened: “at first what happened, teens needed a space to hang out, wanted a place to hang out, some people came drunk, or met up with friends, some friends wanted to dance, swear, act out” (Ryan, Interview, 06/02/2016).

Ryan Hill describes the thinking that brought about enlisting security guards:

We had all this equipment and had to think about security. We had a security system set up and brought in a security officer. We were concerned that that

would alienate people by having a security officer at the door. (Ryan, Interview,

06/02/2016)

The constant presence of a security guard posted at the entrance to ARTLAB+ is noticeable. The security guards are employed by the Smithsonian Institution. Once the teens leave and the mentors are alone in the space the security guard leaves. The security guards search the bags of all teens that enter. It is part of the routine and teens that come on a regular basis know this routine and drop their bags on the security guards table to prepare for the search. Hill acknowledges that the security officer was there to protect property as things were getting stolen (Ryan, Interview, 06/02/2016). Once the security guards came in there were teens that came up to mentors to say that they were glad to have a guard there.

However, there is a tension between having a safe space that allows for freedom and creativity and having a need for security officers in ARTLAB+. As Ryan Hill expands on this issue:

It was a really interesting thing to negotiate. We want people to belong but also have people that set the culture so strongly that it alienates other people. It's important to create neutral and agreed upon rules. What ended up happening is that we lost a lot of people in the beginning. (Ryan, Interview, 06/02/2016)

The construction of a safe space at ARTLAB+ is evolving and is a process of negotiation and co-creation between participants and mentors. In the beginning the staff held town hall meetings with teens to discuss what structures and create a "safe space." Mentors and teens asked questions such as "What is professional wear? What are the



rules? What about weapons? What are we comfortable about?” (Ryan, Interview, 06/02/2016).

Ryan Hill and the mentors learned that the space had to feel safe for teens to come back and bring friends. Part of this feeling of safety included having more structured programming. Hill explains that the “space needed to have an intention” and expectations needed to adjust (Ryan, Interview, 06/02/2016). The staff found that a lack of structure didn’t allow the teens to enjoy and focus on what they wanted to do. Ryan Hill articulates this: “it became too much about managing and not enough about creating a learning environment. It has gotten better. There is a tighter structure now” (Ryan, Interview, 06/02/2016). The staff discovered that giving more structure provided opportunities for teens to be creative. The mentors are cultivating a “safe space” and they are also cultivating a learning environment for creative expression. Within this structure, the kinds of teaching and learning that mentors wish to create in ARTLAB+ can have the support that it needs to emerge.

**Sense of possibility.** Thus, a theory of action guiding the current philosophy of ARTLAB+ is that a more focused environment and a sense of what to do and what not to do, provides teens with more latitude to imagine and space to allow their creative instincts flourish. Teens and mentors exhibited and vocalized a way of thinking that anything is possible. For example, in an interview Jordan speaks to me about collaboration with a friend and classmate of his. He is developing a story about characters his friend is illustrating. Jordan observes over the course of their collaboration that he wants his friend to think about the details of one of the characters. Jordan believes that this project and that his friend's illustrations can possibly go beyond their notebook to a bigger screen. Some of the questions or the "tests" he asks his friend when conceptualizing the characters for their project are: "Is he a billionaire, what does he do for a living? What is his ability and powers? Who does he work with? Who are his allies? What is his background? What are the main villains that he fights? What is the weakness?" Jordan encourages his friend to think about these things in order to give his character more dimensions and complexity. As he notes "someone may want to make a movie out of his characters" (Jordan, Interview, 11/18/2015). In a conversation with his theatre teacher the sense that anything is possible comes up when speaking about auditions: "I really do want to be in another play. I put in an application for auditions here in DC. Anybody can be an actor. Some people will just go to college for acting, but most don't" (Jordan, Interview, 11/18/2015).

Mentors communicate a sense of possibility through teaching. There was a

successful zine making workshop at ARTLAB+. Mentor Gabriel describes the workshop and the active teen participation in it, “there’s no restrictions to what they can do (Gabriel, Interview, 12/10/2015). He gives an example of the possibilities that sprung up from this workshop. Two teens created a zine around the topic of gender nonconformity and created illustrations of two characters that explain what gender non-binary means. What happened next the mentors couldn’t have predicted. The teens took the gender non-binary characters and built a stuffed animal out of them. Then they kept pursuing the idea:

They come back next week and built a stuffed animal of their zine character and then they went and began making buttons that furthered the idea of what their zines were about. They pushed it to the nth degree of the *possible*. They just kept developing the character. The way they did it was so smart. It was this sweet toy explaining to them how to use pronouns. (Gabriel, Interview, 12/10/2015)

The length and scope of where teens can develop their ideas in ARTLAB+ seems to be far and wide. During Open Studio a sense of possibility exists. Gabriel describes teaching students how to draw a human. He explains that “art is secondary. Everyone can eventually learn how to draw a human” (Gabriel, Interview, 12/10/2015). There is a belief and expectation that anyone can learn anything to do anything (within safety and reason) in ARTLAB+.

**Creating social hubs at ARTLAB+.** As teens are given latitude to develop their far ranging interests, mentors create pathways for social engagement in the space. The interests of teens at ARTLAB+ cover the spectrum of digital media. Trey is interested in designing games and is in college studying media arts and animation. Denitra is interested in singing and music. Jordan is interested in audio production, theatre, and going to college. Beatrice is interested in poetry. Mentors purposefully set up social structures within the studio to get to know teens and their interests and for teens to get to know each other.

Through game play, town hall meetings, workshops, and events mentors create pathways for teens to engage with each other and make new friends. For example, video game play is a popular activity that mentors engaged in with teens. This intentional action on the part of the mentors elicited new social interactions for the teens in the space. For example, Beatrice slowly became more comfortable in the space through playing video games:

I wouldn't participate because I felt weird with people so I would kind of do my own thing which is independent studio. And I'd be watching them do their thing and it's actually pretty cool and I'd want to, and Gabriel and Chris have helped me to come out of my shell a little bit with gaming, because I love video games. And I started a smash and we'd do a little card game with the workshops so now I'm not so afraid. (Beatrice, Interview, 12/7/2015)

Denitra also speaks about how she became used to the other teens in the space:

“I’m used to being around the people more here, of course I’ll be more open” (Denitra, Interview, 11/11/2015). Gabriel emphasizes the importance of the social nature at ARTLAB+:

Teens usually either come, it’s one of two things -they either wanna be social, one of our teens has been coming since the place opened. He’s really popular. He’s a DJ so it’s a social thing. There’s music playing in the space. A lot of teens come for the social aspect of video games. (Gabriel, Interview, 12/10/2015)

From the very beginning of ARTLAB+, being social was a priority as Ryan Hill articulates: “the student as social is an important part. Integrating student voice into the museum to create something that didn’t have to be based on objects but based on making. All of those things make the program special and signature. It is a 21st learning space” (Ryan, Interview, 06/02/2016).

The social nature at ARTLAB+ cultivates the fun and excitement that circulates in the atmosphere. Several teens used the word “party” in descriptions of activities and events at ARTLAB+. Trey, a teen interested in video games and animation, describes his first time coming to the space: “first time I came here, they were having a party. So I came here at the right time” (Trey, Interview, 10/13/2015). Trey has been coming to ARTLAB+ ever since. Another teen, Denitra, describes the essential social factor that characterizes the space: “ARTLAB+ is being with friends” (Denitra, Interview, 11/11/2015).

The original pedagogical approach at ARTLAB+ was HOMAGO which stands

for Hanging Out, Messing Around, and Geeking Out (Ito et al., 2010). This approach to teaching shapes the experiences of the participants and informs everything from the design of the space, to the nature of activities, to the way that mentors and teens interact. Ryan Hill describes the beginnings and difficulties of HOMAGO in the space:

Teens wanted space to hang out. Kids wanted a space to call their own and gather. We were trying to do HOMAGO. There was a lot of hanging out. And not a lot of geeking out. Messing around in the middle wasn't something that was - it was spotty. Before people would come and not know their interests. (Ryan, Interview, 06/02/2016)

Mentor Christina describes the importance of the social aspects to the design of programming: “The best workshops at ARTLAB+ are the social ones” (Christina, Interview, 1/19/2016). Mentors created workshops to give participants a more structured experience. Before ARTLAB+ closed for the restructuring these workshops were an integral and daily part of the programming. However, even as workshops were set on the calendar, Open Studio was increasingly becoming more and more popular. To adapt to this change in teen interests the mentors reconfigured their approach as I will discuss in the next section in Teen Mentor Relationships.

## Relationships

**Teen mentor relationships.** The teen mentor relationship is one of the core aspects of the programming at ARTLAB+. In this next section, I discuss the complexity of this relationship as it relates to how mentors teach and learn with teens as well as the teaching challenges that mentors face.

***Hanging out.*** Allowing space to create and form relationships with teens is part of the process of mentorship, as Ryan Hill recounts “you can make all kinds of spaces and say you know what’s best for teens. If you create an open enough relationship with teens, they’ll tell you what they need and want. if they feel listened to, that’s the key. Their interest is driving what happens, opposed to your interests. That was the key component to ARTLAB+” Ryan Hill (Ryan Hill, Interview, 06/02/2016).

Teen interests drive the instruction and programming at ARTLAB+. One example of this is the way that mentors engage teens in the popular interest of video games. The space has soft couches which accommodate groups of four to five teens centered around a video game console. In addition, teens would bring chairs from other parts of the space to crowd around the TV. For example, two mentors often hung out with the teens on the couches and chairs playing video games with them. A favorite game is Smash Brothers on the Playstation 2.

Playing video games builds community at ARTLAB+. Often when walking into the space I saw two big groups of at least five to ten or 11 teens congregating at each video game console playing games with one or two of the mentors. There is a lot of

laughing, joking around, and physicality in video game play at ARTLAB+. The teens have a competitive yet playful energy. I hear raucous yells and shouts during these games which sometimes turned into tournaments.

Video games are one way that mentors welcome and create space for teens to feel comfortable at ARTLAB+. Beatrice often worked independently at one of the tables in the center of the room on her writing with her headphones on. She explains how she gradually became more comfortable participating in workshops which led to her being more comfortable making art in the studio:

I wouldn't participate because I felt weird with people so I would kind of do my own thing which is independent studio. And I'd be watching them do their thing and it's actually pretty cool and I'd want to, and Chris and Gabriel have helped me to come out of my shell a little bit with gaming, because I love video games.

And I started a smash tournament. (Beatrice, Interview, 12/7/2015)

Talking and curating discussions with teens while hanging out helps to shape how mentors teach. For example, mentors Jonathan and Gabriel engaged in casual conversation with Beatrice while she worked on her writing. During these interactions the mentors learn what teens like and engage teens around those interests with other teens. From that point of connection there is ground upon which mentors can teach to the interests of teens. Towards the end of the study, I observed Gabriel helping Beatrice laminate her poems. Getting to know the teens as a starting point is essential to mentor Gabriel's instructional style:



I usually start by gathering them around. I start with discussions. And I try to make it as like, what do you want to make? The last one I did with the 3D we were doing the scanner and before anything, I'd be like alright I'm gonna tell you how this works for 10 minutes and then think about, if you could be anything what would you be? What would you want your final project to be? And then I sort of work independently with them to make that happen. (Gabriel, Interview, 12/10/2015)

Gabriel fleshes out his approach to teaching that is guided by teen interests:

And because I really really don't like the idea of having a start point and a finish point where I have to instruct them to get to. It's much more fun for them to feel like they're doing everything themselves, they're making their own project.

(Gabriel, Interview, 12/10/2015)

The time that mentors spend getting to know the teens is a way of honing this instructional style of teaching to their interests.

Mentors spending time and playing with teens for hours at a time illustrates an interest in bonding with the teens beyond the purpose of a project or a specific end goal. Mentors are building relationships with teens. Play and fun are important conditions to set in place when teaching someone. As Ryan Hill explains "what's great about ARTLAB+ and talented mentors is that they're able to teach things that are procedural but in a entertaining way. It keeps people's interest in the process and in making things" explains Ryan Hill (Ryan, Interview, 06/02/2016). This mirrors what mentor Gabriel

emphasizes as the importance of play:

“If you’re teaching to a student’s interest rather than a format thing they’re not gonna rebel. It’s not a job if they’re playing, and that’s the whole idea to play and have fun. It’s what makerspaces should be. The idea of play. (Gabriel, Interview, 12/10/2015)

Time spent together communicates to teens that mentors are invested in their creative practices and their lives. One teen, Jordan would come into ARTLAB+ and work consistently on his music on a desktop Mac computer. He often used the music production software called “Garageband.” Jordan worked independently the majority of the time that he was in the space. However, at certain points if he ran into difficulty or had a question he would call a mentor over for help. One day Christina, the audio and video production mentor, came over and assisted Jordan on a song he was working on. Jordan describes the mentors as “taking time to show me things” and being “patient” (Jordan, Interview, 11/18/2015). Jordan further describes: “if I have a question about anything a mentor will help me” (Jordan, Interview, 11/18/2015). Jordan’s appreciation of the time that mentors spend with him on his work and of “not pushing him off” is illustrated by Christina’s description of her work with teens (Jordan, Interview, 11/18/2015). She mentions she prefers to be “process oriented” and that part of a mentor’s role is to “pay attention to their interests and work with them one on one” (Christina, Interview, 1/19/2016). Ryan Hill describes the early stages of ARTLAB+ and the challenges with the implementation of the HOMAGO framework. However, over

time, staff became more adaptable to changes in teen interests and created more structured programming such as workshops, Open and Independent studio. They also further cultivated the mentor teen relationship. This flexibility is an integral part of ARTLAB+'s success as there are constant shifts in the teen population. I next discuss how teens mess around and learn new digital media skills, and the ways that mentors create authentic opportunities for teens to geek out and further develop their work.

***Messing around: exploration, failure, and risk taking.*** Ito (2010) gives an account of how teens mess around with new media that involves looking around, experimentation and play, and finding the time and finding the place. One of the first ways young people mess around is by looking for information online. In the next section on teen learning, I will describe how teens demonstrate these practices of messing around with digital media. In this section, I focus on how messing around shows up in teen and mentor interactions.

Mentors teach in groups flowing from periods of hanging out as well as teaching teens one on one. I observed mentors teaching in short bursts. These bursts occurred during one to one instructional moments as well as during group collaborations when teens have questions. Mentors noticed that participation in the workshops were decreasing yet there was tension around wanting to provide structured learning opportunities for teens that were less formal than workshops while still utilizing the skills of the mentors. Christina illustrates the approach to devising new programs:

We can stay excited and have fun teaching these things and the teens can stay excited or engaged or they don't have to join in. Our hope is that it will provide enough more kind of structured teaching opportunities while still giving that space. (Christina, Interview, 1/19/2016)

Giving teens space is valued at ARTLAB+. This is also part of Christina's instructional style as she says "We don't ever like to tell teens they have to do something

at ARTLAB+” (Christina, Interview, 1/19/2016).

Mentors encourage teens to try new things and engage with new digital media tools are a constant task of the mentors. Christina speaks to the challenge of engaging teens to attempt something they haven’t done before and their fear of making mistakes: “we really try to encourage failure at ARTLAB+. The only real failure is when they don’t try, other than that it doesn’t matter to me if you’re doing terrible, I’m just so glad they’re doing it (Christina, Interview, 1/19/2016). Trying something new is encouraged as well as learning that it is okay to mess up. Christina explains:

I feel like so much of my job is to, as a mentor telling teens that no, they're not bad at it and telling them when you first start doing something you're probably not going to be good at it, but how are you ever going to get good at if you don't try? (Christina, Interview, 1/19/2016)

In addition to trying new things, encouraging teens to take risks is another goal of the mentors. For example, when Denitra first began working on her music in the studio Christina had to have multiple conversations with her about “just going for it and not being afraid to sing or write those lyrics, you might suck at first, but that’s totally okay” (Christina, Interview, 1/19/2016). I observed the first time Denitra got certified in Garageband. Christina exclaimed, “Congratulations, you got the cert! You should be really proud of yourself. Now you can record in the studio.” They high fived and smiled. Then Christina said “you gotta ring the bong.” The bong is a round metallic sound structure that is gold and black. There is a long stick with a white cloth ball attached to

the bong and it sits against the recording studio. Teens ceremoniously “ring the bong” whenever they got a new certification. The noise makes my ears shake it can be so loud. The bong sounds loudly so that everyone in the space hears it and stops what they are doing and claps for the person that just rang the bong. Denitra walks over to the bong after her certification and rings the bong. As the mentors cultivate a learning environment that encourages risk taking the goal becomes decreasing the fear of failure. As Christina points out at ARTLAB+ it is “safe to mess up and express yourself without fear” (Christina, Interview, 1/19/2016).

To embrace the action of risk taking sends the message to the teens that it is okay to be completely unafraid. That it is good to mess up and make mistakes. Failure is part of the process within this environment. In addition to teaching these skills the mentors teach other non- technical skills at ARTLAB+. Ryan Hill describes that part of the mentor’s role is “teaching acceptance, creativity, and leadership. Showing teens how to manage to lead your own life. When you’re a teenager, that’s the thing you want” (Ryan, Interview, 06/02/2016). He goes on to highlight the role that mentors serve in teens finding and following their interests “the mentors act as activators and galvanizers for different teen interests” (Ryan, Interview, 06/02/2016). Similar to the prompts that mentors give during workshops their support, relationship with the teens, and experience in digital media activate and spark the interests of teens as they become known in the space.

***Geeking out.*** ARTLAB+ staff offers teens authentic opportunities, such as production teams, so that they can gain real-world experience and further develop their skills and ideas in digital media.

***Authentic opportunities.*** Teens have opportunities to participate in production teams at ARTLAB+. These are opportunities in which the Hirshhorn Museum or another organization in partnership with ARTLAB+ hires teens for paid opportunities doing video, audio, graphic design, animation, photography, or game design work. Teens may also learn how to work in a team which models a professional production company.

Most of the teens that participate in production teams are teens that are “Geeking Out” or intensely focused and production in an area of digital media (Ito, 2010). Teens submit applications and are selected by staff to work on production teams. These experiences provide teens with unique and authentic responsibilities to produce a product as well as the experience of working on location and with the public.

One production team was hired to work on the “Question Bridge: Black Male Identity” project in collaboration with The Phillips Collection in Washington, D.C. Mentors and staff selected four teens out of the pool of those who applied to take part in the production for the roles of director, editor, videographer and audio producer. I observed the audio/video mentor and four teens participating in a production team meeting. Jordan had applied to do sound production. He was not selected for this role however he was invited to participate in meetings and to shadow the teen selected to be

the producer. During the meeting I noted Jordan's reaction to not getting selected to be on the production team. He sits with the group and pays attention to the direction Christina gives as she discusses the project goals, tasks, and responsibilities of the teens. Jordan appears engaged throughout the meeting. Christina states that at the end of their participation in the production project students will receive \$100 gift cards. In addition to teen pursuing projects based on their interests, and desire to get certifications, there are also extrinsic motivation strategies that mentors employ such as remuneration and privileges that come with getting certified.

For this project teens will be asking other black boys questions on black male identity. One young man, Idrick, gathers five questions. He stops me as I walk past and says, "let's ask this intelligent black woman her thoughts" and proceeds to ask me to think of a question to add to the list. He gives me his five questions which are on an iPad to look over. I tell him that I think the questions he has written down are really good. Examples of the questions include: "When and how are we going to change the future for the better?" and "Why do 50% percent of black males drop out of high school? I think about Idrick's question and add another question to the list. My question prompts the students to imagine what kind of world supports positive development of black men and boys? This conversation and questions posed represent some of the thoughts and ideas that the teens are grappling with in this moment. This example highlights topics of interest to that some of the participants hold. At the time of this study a spur in violent acts committed against black men such as Walter Scott and Freddie Gray prevailed on the



news.

When the meeting shifts gears and Christina prompts the four teens to do a run through and go over the equipment Jordan breaks away from the group and goes to work on a desktop computer. Later he discusses the production team experience without prompting:

But I was kind of disappointed because I wasn't able to do it because Christina says you know Patrick had more experience in audio. But you know, I was thinking about it, just because I'm new to a software don't mean nothing. I don't have experience but to be on the same side, how do you know though? (Jordan, Interview, 11/18/2015)

Jordan's apparent frustration at not getting selected indicates the complex dynamic of the teen mentor relationship. In some instances, he feels supported in his music production goals as he notes appreciation for how the mentors don't "push him off" and love his work (Jordan, Interview, 11/18/2015). He also appreciates their helpfulness: "the mentors do help me. Christina always helps me. If I have a question about anything she will help me. (Jordan, Interview, 11/18/2015). There are various ways that teens feel supported by the mentors. And yet there are authentic opportunities that come up where there is an invitation to participate in meetings, however, there are teens who may get selected and may not get selected to fully participate. This process can weigh on the relationships and the trust built between teens and mentors.

Beyond ARTLAB+ production teams there are other authentic opportunities in

association with the Hirshhorn Museum that teens can participate in. One teen, Amelia, dived deep into the zine making workshop and later created a zine on how to make zines. She had the opportunity to participate in Awesome Con which is an annual comic con and pop culture convention in Washington, D.C. Gabriel describes this in more detail:

She was drawing every day. And she was researching on her own. She really knows what she likes and she knows where she wants to end up and so she was a lot of the reason why we started doing the whole comic workshop. And so ultimately, she's the one who did how to make a zine zine. Total leadership role. We hired her to do a two page comic about what ARTLAB+ is. We took her to Awesome Con and she killed it and just you know natural. (Gabriel, Interview, 12/10/2015)

The time spent getting to know teen's interests help plan the structure of creating authentic opportunities for teens to participate in. Gabriel speaks to the importance of Amelia's interests in the zine workshop: "She really has her interests down. She was so unbelievably driven" (Gabriel, Interview, 12/10/2015). This process of guiding teens in messing around with new equipment and exploring their interests allows teens and mentors to co-create experiences where teens can be successful because they are driving the experience.

Gabriel brings up the point that there are other paid opportunities for teens beyond ARTLAB+ in the context of the larger community: "a lot and it's paid opportunities. If there's ever anything on the mall that they need me to document. There's always some

sort of promotion something going on” (Gabriel, Interview, 12/10/2015).

**Mentor challenges with the HOMAGO Approach.** The flexible nature of programming at ARTLAB+, the pedagogical approach of HOMAGO, interest-driven learning, and the diversity of teens each with different learning styles can be challenging for mentors. In the beginning of programming there were definite challenges. Ryan Hill describes the obstacles in the beginning:

We were trying to do HOMAGO. There was a lot of hanging out. And not a lot of geeking out. Mentors felt like babysitters. For sake of mentors, art was emphasized more. Sense of teaching that was more meaningful. Their talents weren't being used as a resource. Had a hard time directing the teen interests.

(Ryan, Interview, 06/02/2016)

The drop-in structure of ARTLAB+ and the transient student population challenges the mentors to figure out how to build programs that engage teens at different levels of learning. Christina speaks to this point:

The real challenge for a mentor is figuring out how does this teen learn. We need to design workshops for them in hope that we can make them challenging enough for someone who really knows the software. It's really hard to do that. It's hard to design curriculum that's social and challenging for some but easy for others. It's a puzzle that's almost impossible to solve. (Christina, Interview, 1/19/2016)

The mentors have to think deeply about the changing interests and wide range of skill

levels of the teens in the space.

**Mentor learning.** Teens teach mentors new things and the mentors also learn from the teens. During a production team video shoot I observed Christina messing around with something on her phone. I ask what she's up to and she says "these teens got me hooked on it" referring to Snapchat an image messaging and multimedia mobile application (Christina, Interview, 1/19/2016). As mentors hang out with teens they learn new types of popular social and digital media.

There are also moments of learning and growth when teaching workshops. Gabriel describes an epiphany during a zine making workshop when a teen created a "How to make zines" zine, "probably what I should've done in the beginning but they figured it out and actually did it better than I.... A lot of leveling up is becoming what my job is and having them do my job" (Gabriel, Interview, 12/10/2015). Leveling up is defined as advancing towards a higher skill level in digital media. This moment gives Gabriel other possibilities to consider for prompts when teaching zine making and comic books.

These moments provide space for mentors to move back and explore the best approach for specific situations. As workshop participation went down, mentors took note and shifted their approach. "We're finding out it's better to work one on one with the teens. We're gonna take this time to assess the teens and their interests" (Christina, Interview, 1/19/2016). Taking time and space are important in facilitating growth and

discovering new things which can inform the programming.

The relationships that mentors develop with teens are based on getting to know them and their interests. This builds genuine trust and connection. Ryan Hill illustrates this reciprocal relationship: “if there’s technology, even more important, there are adults who could learn just as much from teens as teens learn from adults. There is a genuine interest in power dynamic that was equal and exploratory” (Ryan, Interview, 06/02/2016). In order for mentors to learn from teens, they have to recognize and see teens people who are able to offer them knowledge and able to teach them. Mentors have to be open to this which involves, as Ryan Hill describes, a shift in the typical power dynamic that you see between adults and young adults.

### **Teachers and Adults at School**

The relationships that teens have with teachers and adults at their school inform the opportunities teens may take up in ARTLAB+ and beyond as well as the artistic choices that they make. For example, Jordan’s band director at school told him about a type of music software called “noteflight.” He implements this software into his arsenal of music production tools which include mini keyboards and Garageband. Jordan also urges himself to speak to his teacher:

I’m trying to find some theatre programs that I could use but it’s so hard to find you know. I keep forgetting like go to your theatre teacher. He got his own theatre company so just go to him. He invited me to a backstage. (Jordan, Interview, 11/18/2015)

This teacher provides opportunities for Jordan to further explore his interests in acting.

An important adult figure in Beatrice's life is the school counselor. Beatrice speaks this relationships impact on her writing and on herself:

When I went to counseling and stuff like that, I'd make poems for the counselor, whoever was counseling me. So that she understood how I felt but that I wasn't going to do anything harmful. This is how I get it out. And she actually liked them a lot and she'd post them on her desk and stuff. It made me feel better. And even seeing my work and that she felt proud of me for it, made me feel so much better.

(Beatrice, Interview, 12/7/2015)

This feedback served as encouragement and support for Beatrice who continues to write poetry and goes through transformations with her writing practice. Adults at school come together to influence and shape the interests and activities that teens pursue at ARTLAB+.

### **Family**

Teen relationships with adults at home play a role in teen creative development. For example, family plays a large role in her life and the choices Denitra makes in her work at ARTLAB+. Denitra's speaks about her adopted Mom and the effect her belief or lack of belief has on her:

My adopted mom said I couldn't sing that well. So I was just like okay. I'll try to do me still. But it was pretty hard. Because she wasn't necessarily on my side. So, umm I haven't really gotten any help since when I was younger. (Denitra,

Interview, 11/11/2015)

Denitra explains that she wants to prove her adopted mom wrong about her singing. Later, on the topic of siblings, Denitra speaks about the role she plays in her young sister's life: "maybe one day, you can say that my big sister is a singer....she can do something with herself" (Denitra, Interview, 11/11/2015).

Denitra's family affects her art making in multiple ways. Her family is part inspiration in how she positions herself as a role model for her siblings. They are also a source of discouragement in the feedback from her adopted mother. The trials of her younger siblings, their dreams, and missteps influence Denitra and her goals with her music: "Like yeah, that's my older sister she doing what she gotta do" (Denitra, Interview, 11/11/2015).

Aside from inspiration and discouragement, there is pressure Denitra feels to "help out" with bills: "I'm trying my hardest. Bills not getting paid right sometimes. And so if I get my music out there, I could help my mom out. I'm trying" (Denitra, Interview, 11/11/2015). Denitra's steady presence and dedication to her songwriting and music production show the influence that her family has on her life. All of this background thought activity influences her in her movement towards her artistic and career goals.

While it seems that the feedback from Denitra's adopted mom provided motivation to "prove her wrong" it is not without its setbacks. Denitra has a determined spirit and yet there are difficulties from the lack of support from her family members. When responding about how the work is going, Denitra describes: "it wasn't really

getting me nowhere. I'm not doing what I love right now. Not doing as much as I can do” (Denitra, Interview, 11/11/2015).

Family support also plays a big role in Beatrice's life. She describes her relationship with her mother:

My Mom is one of my biggest fans. A few days ago I said something about copius amounts and she's like good word. Thank you. She's learning new words and it's like I'm your girl, ma! So yeah, those small things that make me feel better about myself that make me want to keep doing it so I get these compliments but it's not like I need it. It just feels nice. (Beatrice, Interview, 12/7/2015)

Later, Beatrice states that her major influences are her sister, her emotions, and her life. Beatrice' sister influences her writing and her artwork: “So yeah, I like to think of my sister when I do these types of things and show her afterwards” (Beatrice, Interview, 12/7/2015).

In the examples of Denitra and Beatrice, close family members influence the thoughts and ideas that teens put towards their art making. These relationships influence their lives outside of ARTLAB+ and the choices that teens take up as well as their creative practices. The relationships with family members and adults at school are inextricably linked to how teens learn at ARTLAB+ and the environment that they co-create with the mentors in the space.

### **Friendships**

At ARTLAB+ teens are part of a social environment in which access to meeting



new people is encouraged and facilitated through the design of the programming. One way that ARTLAB+ gains participants is through word of mouth. Jordan “encourages other students at school to come to ARTLAB+” (Jordan, Interview, 11/18/2015). Denitra and Beatrice were first introduced to ARTLAB+ through friends. Mentor Gabriel expands on the importance of friendships towards sustaining student participation and attendance:

Well that’s honestly what helps us survive we’re talking about formatting this place and part of it is high school students, from eighth grade to 12th that’s five years....because it’s all new people and starting to build up again. And it’s the most essential to getting people here. (Gabriel, Interview, 12/10/2015)

Teens also make new friends at ARTLAB+ through their friends. Beatrice describes how at first she made friends through someone that brought her to ARTLAB+ and that later she met friends on her own:

I had a friend who brought me here, because I had nothing to do. He brought me here and introduced me to friends that he brought me around to and I’ve become friends with people that I’ve met on my own because from knowing them from his side and them helping me out. (Beatrice, Interview, 12/7/2015)

Beatrice admits that she “followed her boyfriend and his friends around,” however, now she states confidently that she “has a lot of friends. I’ve come out a lot since I’ve first started here last year” (Beatrice, Interview, 12/7/2015).

The social factor and building of friendships in the space is prominent among the

teens. Denitra describes that “ARTLAB+ is being with friends” (Denitra, Interview, 11/11/2015). Mentors also observe the prominent role that friendships play in the lives of teens at ARTLAB+. “You would maybe not ever think that Steven would be friends with Amara but they would have communication outside of ARTLAB+. All the teens would become friends” (Christina, Interview, 1/19/2016).

Having friends in the studio also shifts the dynamics of the space and the way that teens feel at ARTLAB+. Denitra describes that it “feels more open with friends around” and “it’s good to have friends here” (Denitra, Interview, 11/11/2015). Denitra notes feeling more comfortable sharing her work with friends: “and since I know a fair amount they come here. It’s like, I’m used to being around them so of course I’ll be more open” (Denitra, Interview, 11/11/2015). The relationships that teens have in and outside of ARTLAB+ with mentors, family, and friends, shape and influence the work and activities that they pursue in the studio. Specifically, the mentor teen relationship is one of the primary features that create the conditions for learning in ARTLAB+. In the next section, I focus on the *processes* in which teens learn and create digital media projects. This section is in response to research question one of how and what are teens learning in ARTLAB+.

## Teen Learning and Creative Processes

**Teen learning processes.** The relationships that teens and mentors build together provide a strong foundation upon which to teach and learn together. One of the ways teens learn in ARTLAB+ is through observation, feedback, discovery and experimentation, and transformation and growth. In this section, I also delve further into the real world digital media opportunities offered to teens at ARTLAB+. Lastly, I discuss the markers of successful teen learning and peer-to-peer learning in the studio.

**Observation.** Beatrice watched others in workshops or Open Studio and “found it cool” (Beatrice, Interview, 12/7/2015). Another teen Denitra learns by “observing people in the sound booth” (Denitra, Interview, 11/11/2015). She picked up the available tools that teens are using in the space:

I only know about Pro Tools because when JJ’s in the booth with some of his friends, I’m in there too, because I want to observe everyone. While they’re doing this. So I observe. And they use Pro Tools from what I know. and I’m just like, how do you do this, how do you do that? and I’m just watching without questioning. (Denitra, Interview, 11/11/2015)

Denita also turns to other musicians for inspiration and to learn what she likes and doesn’t like:

So now when I listen to other famous people's music, I listen out for what's in the song now. Like the base, the drums, the guitar. I always listen out for it. So when I want to have that beat or similar sound in my music. I'll listen out for it.

(Denitra, Interview, 11/11/2015)

***Feedback from parents.*** Teens also learn through feedback in ARTLAB+.

Feedback comes from multiple sources including family members, mentors, peers, and adults at their schools. Trey has a parent who has a positive influence on his work: "Mom would support me with honest critique" (Trey, Interview, 10/13/2015). He further explained that this type of critique helped his work "get better" and that his Mom pointed out "what I actually did good" by highlighting what she liked. Through this feedback, his work improved as he mentioned that it got better, and furthermore, Trey felt "supported" in his work (Trey, Interview, 10/13/2015).

Both Trey and Beatrice respond well to the support from their parents. Beatrice indicates that through their interactions around her poetry her Mom is learning new words. This act of helping her mom learn new words through her poetry makes Beatrice want to "keep writing" and she expresses that "it feels nice" to know that she is helping someone (Beatrice, Interview, 12/7/2015).

The type of feedback matters. Feedback can also be destructive to teen creative projects. Denitra received feedback from a family member. She speaks about her family repeatedly stating the number of siblings she has, her relationships with her parents, as

well as descriptions of her home life. Denitra states that her “adopted mom said she couldn’t sing that well” (Denitra, Interview, 11/11/2015). This affected Denitra and her efforts with music production as she says “it was pretty hard” (Denitra, Interview, 11/11/2015). However, there is an attitude of determination that Denitra has as she follows this feedback statement up with “I need to prove her wrong” (Denitra, Interview, 11/11/2015). The feedback from people that are close to the teens such as a parent or a teacher matters.

***Feedback from mentors.*** The role that mentors’ feedback play in the lives of teen art work at ARTLAB+ is prominent. The feedback that mentors give to teens around their artwork may have important implications for the efforts and feelings that teens put towards their projects. An example includes mentor Christina working with Denitra on her music production. Denitra describes the technical feedback Christina gave her on one of her songs titled “Mixed Emotions”:

That song, wasn’t as flowy as it should’ve been. At first. Until, I had Christina listen to it. And when Christina listened to it, she was like Hey! the chorus part should be a little more different than what everything else is. So how about you leave the base out, not the base, but use a different tone of base and take the beat out and put a different beat to the chorus part and maybe you'll sound a little better. I tried it and I was like I like how this sounds!! So she was my help for that skill part. (Denitra, Interview, 11/11/2015)

Denitra found this feedback constructive as she explains that “mentors are extremely helpful” and that “they know what’s best” (Denitra, Interview, 11/11/2015). Denitra also includes that Christina was “surprised at her getting the beginning of a song done” indicating a sense of feeling pleased by Christina noticing the progress she has made (Denitra, Interview, 11/11/2015).

Jordan also describes the feedback from mentors as helpful. The mentors help Jordan with his work and “if he has a question about anything a mentor will help him and offer him specific technical suggestions such as “I can do sound effects instead of doing keyboard loops in Garageband” (Jordan, Interview, 11/18/2015). The availability of the mentors being in the space is a resource for the teens to call on when they need help.

The relationships between the teens and mentor is complex and feedback from the mentors isn’t also easy to receive. Jordan describes a comment staff made on one of his songs: “that’s the same song you’ve been on” (Jordan, Interview, 11/18/2015). Earlier Jordan described the assistance from mentors as helpful and appreciates how they “don’t push him off.” And yet, Jordan also indicates that there are some moments when he feels that that patience and space are not provided.

***Feedback from adults at school.*** The adults at school also have an impact on teen projects. Beatrice is a teen that works diligently at her poetry. Throughout our interview she mentions having trouble at home. Beatrice has a counselor that she sees at school to work with her on things she has trouble with. Beatrice describes sharing her poetry with her counselor:

When I went to counseling and stuff like that, I'd make poems for the counselor, whoever was counseling me. So that she understood how I felt but that I wasn't going to do anything harmful. This is how I get it out. And she actually liked them a lot and she'd post them on her desk and stuff. It made me feel better. And even seeing my work and that she felt proud of me for it, made me feel so much better.

(Beatrice, Interview, 12/7/2015)

This is motivating for Beatrice who thrives off of emotions and how she feels about things as she says: "I'm all about the good feelings" (Beatrice, Interview, 12/7/2015).

Feedback can be constructive and help teens learn to be aware of what messages their artworks communicate to the public. Beatrice's teacher gave her feedback on a "sad poem", a poem that was about dying in fields and said that the poem seemed "wrong"

(Beatrice, Interview, 12/7/2015). This feedback helped her realize how strong the language in the poem was as she says "that's when I decided to use better words"

(Beatrice, Interview, 12/7/2015). This feedback could be perceived as negative, however, it had a positive effect on Beatrice who was motivated to be more aware of the imagery in her poems: "at that point that's where I decided to use better words to express myself"

(Beatrice, Interview, 12/7/2015).

Similar to Beatrice, Jordan discusses the beneficial relationship he has with a counselor at school:

I used to be immature. But my social worker worked with me and that's one of the things I was grateful for when he asked what am I grateful for. And I said I'm thankful that you helped me grow into a mature individual. Because I was very immature when I first went to Eastern. But I know that somebody knew that I'm better now. So I had a social worker who helped me. And as time went on it was improving. So I was very proud of myself for that. (Jordan, Interview, 11/18/2015)

This relationship and feedback informs the person Jordan is becoming and how he conducts himself in the world, including spaces such as ARTLAB+.

Jordan is also a music person who knows how to play multiple instruments. He discusses the encouragement he received from a teacher at school “encouraged me to participate in marching band” and a “teacher advised me to try saxophone” (Jordan, Interview, 11/18/2015). It is through this type of encouragement that Jordan has picked up knowledge of how to play the piano, the saxophone, and the clarinet. He draws on this knowledge in the projects he pursues at ARTLAB+. The feedback that adults at school give to teens influence their creative projects that they may bring into and pursue at ARTLAB+.



***Feedback from peers.*** How friends critique one's artwork also influences teens creative projects. Beatrice let a peer read her poetry for the first time and recalls:

The thing I strive for is to get better and better every time I do a poem and then to use good words, so you use that wow factor, so those words are sad but wow the way you said it. Umm. Like even finally I let a person read my poem for the very first time, I never let anybody do that. He said "wow" through every single one of them. The way I felt about that was like I want to make more wow's and use bigger words more vocabulary. It made me feel really good. That's what I strive for until I can't get any better really. (Beatrice, Interview, 12/7/2015)

Similar to Beatrice, Jordan received support from a friend's critique: was "really amazed" after hearing one of his songs. Jordan expresses that this praise "makes him feel good" that "somebody appreciates his work. Even if I'm not a master of it. Somebody that appreciates it. It makes me feel good" (Jordan, Interview, 11/18/2015).

The small things in giving and receiving feedback matter. The small detail of Denitra's remark about Christina's surprise in getting the beginning of a song done matters. Shortly after I observed Christina and Denitra working through the songs, I saw Denitra grab a certification off of the corkboard on the wall and get certified in Garageband. And then she was in the sound booth for the first time. The small act of Beatrice's Mom learning new words because of her poetry matters to Beatrice and motivates her to continue writing poetry. This positive response sustains her: "the praise I get afterwards for working so hard and working so diligently. And the way it looks

because I took my time. It's a good feeling to me. I'm a vibing person. I go on feelings with people" (Beatrice, Interview, 12/7/2015).

**Goals.** The critique and feedback that teens receive from peers, adults, and teachers inside and outside of ARTLAB+ influence the goals they set for themselves. With Beatrice for example, progression, not necessarily the outcome or final product, seems to be an important part of her goals: "I want to make more wows and to use bigger words and more vocabulary" (Beatrice, Interview, 12/7/2015). This goal stems from the positive and constructive feedback that she received from someone who made 'wows' after reading her poetry for the first time. In addition, this goal stems from seeing her mother learn new words through Beatrice's use of dictionaries and thesauruses.

Similar to Beatrice, Denitra also expresses a desire to progress and keep moving forward as she wants to "get her ideas out and be heard" (Denitra, Interview, 11/11/2015). Both teens have a goal of making improvements in their different art forms. There is a focus on the process. Denitra's goals for the future include inspiring others and being a positive role model for those in her community. She wants her listeners to see that "she got herself out the hood" and "wants to get them out the hood and get successful like me" (Denitra, Interview, 11/11/2015). Another goal is Denitra's desire to attend a rave:

"I want to have like, not like, them at a young age, but my brothers and sisters be there with me. Like yeah!!!! and I'm just like yeah!!! and we're just like yeah!!! And we're just going. I've always wanted that. (Denitra, Interview, 11/11/2015)

This goal may speak to Denitra's desire to celebrate with her whole family together and happy and to have her siblings sharing in the joy of her passion and purpose towards music.

The nature of goals for teen participants at ARTLAB+ is complex. There is a focus on process as well as a final outcome. Contradicting her previously stated goals of improvement Denitra also thinks a lot about a career in the music industry. There is a tension of Denitra's wish to "put her music out there" before it's "too late" (Denitra, Interview, 11/11/2015). She is negotiating against the backdrop of expectations of the age that she envisions someone being successful in the music industry. Denitra expresses frustration at the process: "I need to get myself out there before it's still too late, people want young artists" (Denitra, Interview, 11/11/2015).

Jordan looks to the near future, envisioning his life after high school, has a goal of being a college student. He wants to go to George Mason University and believes in his ability to follow through with this plan of action: "I know I'm going to GMU. No telling what software I might be using at GMU" (Jordan, Interview, 11/18/2015). Beyond going to University, Jordan wants and envisions a certain community of people that he wants to be around: "I want to be able to be in class with regular students. I want to be with other people. I don't want to just be in that Mason life with other kids with disabilities" (Jordan, Interview, 11/18/2015). These goals influence Jordan's participation and reason for coming to ARTLAB+: "I could put this on my resume" speaking about his participation in the studio (Jordan, Interview, 11/18/2015). ARTLAB+ is a place where

Jordan is able to be with other students. There are no official categories or systems of tracking teens by skill level. When speaking about his goals Jordan proclaims with decisiveness and determination: “Special Ed don’t stop me” (Jordan, Interview, 11/18/2015). The goals that teens have at ARTLAB+ drive and motivate the actions that they take in their creative projects as well as how they conduct themselves.

***Teen learning through discovery and experimentation.*** Teens learn through experimentation and trying new things. Jordan communicates that he “learns by experimenting with Garageband” (Jordan, Interview, 11/18/2015). Jordan describes his learning process: “when I see something that I didn’t see or use, I will experiment” and try new things such as “puts everything on mute, lets the note play, then mutes the second loop, to see how it sounds” (Jordan, Interview, 11/18/2015). He also experiments with knobs on the keyboard to discover what works for him, what doesn’t work, what he likes and what he doesn’t like as he explains: “doesn’t use sound effects because it doesn’t go right and doesn’t fit” (Jordan, Interview, 11/18/2015). Through trial and error he learns new things on Garageband: “I knew something wasn’t right as the French horn section was overpowering and took up the whole sound.” This is different than procedural instruction that is typical in more formal learning settings. Mentors assist in this process as Jordan explains that: “mentors show me something new and then I experiment” (Jordan, Interview, 11/18/2015). Learning something new is important to Jordan in participating at ARTLAB+.

Similarly, Trey, a teen interested in game design and animation, also shares this affinity for learning through experimentation and discovering things on his own. He describes the mentors challenging “you to learn on your own sometimes. And it’s just fun learning something on your own, to me, its fun. Because I know I got a new skill that I pretty much taught myself with the help of a few friends” (Trey, Interview, 10/13/2015). He goes on to describe that he “has to understand something new himself to learn about it

on his own” as opposed to “having something shoved down our throat in schools” (Trey, Interview, 10/13/2015). When talking to other participants in the space during Open Studio about how they learned to draw teens commonly responded with “self-taught” and through “YouTube tutorials.” In both Trey and Jordan’s experiences when learning new things it is helpful to have the space and time to do so.

It is through a process of discovery and trial and error that Beatrice finds what works for her. Outside of ARTLAB+ she was “finding a way to help herself and first engaged in self harm” (Beatrice, Interview, 12/7/2015). She includes that her “friends helped” however she needed to find something that her mom wouldn’t be mad at and that she could do “forever” and that “drugs were not the answer” (Beatrice, Interview, 12/7/2015). Through the process of finding a creative outlet Beatrice started writing poetry. Finding poetry was an important moment in Beatrice’s life as she describes that writing poetry allows her “to be happier” and that she doesn’t have to “take her emotions out on people” or harm herself (Beatrice, Interview, 12/7/2015). She reflects: “it’s the small things you learn about yourself” (Beatrice, Interview, 12/7/2015). Teens at ARTLAB+ are experimenting with new digital media tools as well as what creative outlets make sense for their well-being, interests, and needs.

***Transformation and growth.*** ARTLAB+ supports teens taking time to learn.

There are great moments of transformation and growth that several of the teens I interviewed experienced. This growth takes a different shape for each teen and is experienced in a multitude of ways. For example, Jordan describes how he “used to be immature ” when he first went to his high school and how his social worker worked with him and helped him to grow into a mature individual (Jordan, Interview, 11/18/2015). The way that Jordan handled the disappointment of not getting selected for the production team is an example of showing maturity. He describes his feelings in that situation: “I could respect that. I’m like I’m not a person who needs gift cards so it’s, I could respect that, if he has more experience, that’s fine” (Jordan, Interview, 11/18/2015).

Beatrice also experiences significant transformation. Similar to Jordan, she has grown in how she handles social situations. She describes: “I have come out of my shell a lot” where before she kept quiet and “to herself” (Beatrice, Interview, 12/7/2015). When Beatrice first started coming to ARTLAB+ she did not participate in workshops. Over time, after seeing the value of participating in workshops, she became comfortable enough to join in: “I started getting into things like that when I was seeing how beneficial it was for me as a person in society (laughs) instead of being alone in the chair” (Beatrice, Interview, 12/7/2015). She describes this journey: “I became my own person when I decided I can do art and draw and do photography” (Beatrice, Interview, 12/7/2015). The words “I decided” indicate a shift in action of moments of change and transformation of

self. The discovery of Beatrice's interests was a catalyst for her emergence of self.

This marks a shift from her participation in the beginning where she followed her boyfriend at the time around. This increase in initiative and participation in creating art allowed her to become "more talkative, outgoing and making her own friends" where before she made friends with her ex-boyfriend's friends. Beatrice smiles and says confidently that she likes who she has become now "because I can do all these things" (Beatrice, Interview, 12/7/2015). The structure of mentors giving teens space, as Gabriel and Christina describe, and having a hands off instructional style, allows teens to pursue their interests and activities on their own time and on their own terms.

Growth is seen through increase in participation and changes in teen performance. Participating in workshops has positive effects for Beatrice and her creative projects. She became a lot more comfortable when creating in ARTLAB+ after participating in workshops: "it helped me be a lot more comfortable being able to do whatever I felt like doing on paper. Before I'd be like what is everyone else doing? looking around like hey, now I'm just like you see me" (Beatrice, Interview, 12/7/2015). As she felt more comfortable in ARTLAB+, interacting with other teens more, she became more free and able to take more risks in her writing. Feeling comfortable enough to show your true self is a part of growth. Overcoming shyness and learning to work with others are skills that teens learn in ARTLAB+. Jordan also describes a change in his demeanor since coming to ARTLAB+: "it's time to open up and get out of my shyness" (Jordan, Interview, 11/18/2015). Along with Jordan and Beatrice, Denitra also learns how to be social and



make herself known as she describes herself as “quiet. I never really had a chance.. to be open. Now, I’m able to write and make things myself” (Denitra, Interview, 11/11/2015). The ability for teens to open up and show their true selves through their artwork and in their interactions is attributed to the comfortable and safe environment that mentors and teens cultivate in ARTLAB+.

From Jordan expressing how he has changed in maturity level from the beginning of high school to where he is now as a senior and to Beatrice shedding light on how she has grown over the months and how the nature of her participation has changed at ARTLAB+, I can see that learning takes time. In a powerful statement Beatrice reflects on her growth over the years: “it took me a few years to learn how to be good to myself” (Beatrice, Interview, 12/7/2015). On the theme of learning and growing over time, Denitra describes a song that she made: “I finally created something that I like” (Denitra, Interview, 11/11/2015). Ryan Hill also observes teens are learning more than technical skills at ARTLAB+. In the case of Beatrice, having the space to discover what does and does not work for her, to explore her interests, and to consistently work on her writing, she finds what practices and activities are good for her. ARTLAB+ gives teens the necessary space to become themselves.

***Real world digital media opportunities.*** As discussed earlier, there are opportunities for teens to participate in production teams at ARTLAB+. Mentors selected four teens to participate on the Black Male Identity Project production team. Joran applied for the role of audio producer and did not get selected. This event was frustrating for Jordan who is works diligently on his music at ARTLAB+. One of the criteria for working on the team was technical experience. He expresses his feelings about not getting selected “just because I’m new to a software don’t mean nothing” (Jordan, Interview, 11/18/2015). This comment may allude to the not so visible ways Jordan can attain musical and technical knowledge. This type of learning may exist outside of ARTLAB+ through other pursuits and activities and/or using other types of equipment. He is cognizant of the selection process and how it did not include his values of knowledge around technology and his past experiences.

Jordan challenges this process: “I don’t have experience but to be on the same side, how do you know though?” (Jordan, Interview, 11/18/2015). These production team experiences also give teens insight into the highs as well as the lows and drawbacks of working on projects where there is the possibility for rejection. Teens learn how to navigate feelings of disappointment and how to move forward with their goals despite perceivable setbacks.

Production teams arose partly from changes in how ARTLAB+ is funded. Ryan Hill explains:

When the original funding stopped that provided a window where ARTLAB+

could be more meaningful to the rest of the Smithsonian” (Ryan, Interview, 06/02/2016). There was a need to reassert the significance and value of the space and the community it serves. Teens started collaborating on projects across other museums within the Smithsonian. This was in 2013 when “a lot more grant writing started to impact the projects in ARTLAB+. (Ryan, Interview, 06/02/2016)

Part of the mission of ARTLAB+ is to develop civic engagement in teens. This part of the mission is carried out through authentic experiences such as production teams.

***Markers of successful teen learning.*** Mentors observe indicators of successful learning and growth at ARTLAB+. One example is the increase in teens working on their own projects in Open Studio instead of participating in workshops. Christina comments on this trajectory “in some ways that means we’ve achieved a level of success and we saw a lot of peer to peer education” (Christina, Interview, 1/19/2016).

Gabriel recalls that the best workshops that he did were the comic book and zine workshop. He takes note of how teens took a zine making project to new heights during Open Studio:

I could tell that they were learning because it was almost this children’s book that taught you what pronouns to use and then they made a whole series and this is what blew my mind, they made toys out of stories. They just kept developing the character. (Gabriel, Interview, 12/10/2015)

The teens continued working on the project in Open Studio long after the workshop

ended. Gabriel describes how a few things that made this workshop successful were the fact that “some teens got published from zine making” and the workshop was “so easy to participate and empowering as it gave teens a voice” (Gabriel, Interview, 12/10/2015). During this workshop, Gabriel thinks back to how “a lot of social issues came around. Teens became comfortable with identifying as a male for the first time which was exciting” (Gabriel, Interview, 12/10/2015). The teens leveled up, propelled and sustained by their interests in gender identity, and developed the project further with the support of the space, the resources, and the mentors at ARTLAB+.

This time spent on this project is similar to Maya working on a 3D Paper Craft project. Mentor Kevin introduced a 3D Making activity called Paper Craft which involves making a 3D hollow sculpture out of paper. There are floating heads sculpted out of paper in ARTLAB+ from this workshop. The heads are about the size of a basketball. During this workshop Maya “leveled up” and created a giant T-Rex. She ended up going to the White House Maker Faire. Christina gives an account of her activity:

She came in every day to ARTLAB+ and printed it out, cut it out, folding it, and it was 5’5 tall and 8-10 feet long. She took an interest in it. She did it all by herself. Folding, gluing, cutting, folding. She got so good at it she ended up writing the paper craft certification. She just took that initiative and made that certification. That really changes a mindset of the space. (Christina, Interview, 1/19/2016)

Maya displayed ownership of her work. One day long after the project ended Christina remembers “she took that dinosaur head. We had it for so long and was a talking point. She wanted it because she should be really proud of that” (Christina, Interview, 1/19/2016).

There is also the success story of the ‘Good Photography Guys.’ The Good Photography Guys are a group of teenagers who met in ARTLAB+ and became friends through a shared interest in photography. They all came to ARTLAB+ different reasons. Soon after meeting and working together, they decided to start a business and as Christina says “they get hired to this day to take photos of graduation, prom, weddings” (Christina, Interview, 1/19/2016). This is a marker of successful learning at ARTLAB+. Gabriel describes another experience where teens worked with others in a professional manner: “one way I could tell they were learning, we went to Awesome Con, they met another group who wanted to publish their zines, and the teens handled it professionally” (Gabriel, Interview, 12/10/2015). The ability for teens to leverage their skills in zine making while attending a major conference demonstrate a sign of success and a sign of professionalism which is valued in ARTLAB+. Participating in Awesome Con also gave teens the opportunity to understand what it is like to have work commissioned.

***Peer-to-peer learning.*** Peer-to-peer education is also a indication of learning at ARTLAB+. Christina says that “the best workshops at ARTLAB+ are the social ones. We’re really doing our job if we can just sit back and let the teens teach each other” (Christina, Interview, 1/19/2016). With experience and time teens at ARTLAB+ teach

others what they know and “you see it more in the geeked out teens. One teen is on Photoshop and a teen right next to them is on Photoshop teaches each other” (Christina, Interview, 1/19/2016).

These moments of peer-to-peer learning are facilitated in part by the design of the learning space and the structure of programming with open studio and independent studio. During open studio geeked out teens work with other teens “that’s sort of what was going down this fall, in addition to a lot of hanging out and video game playing, there was so much peer-to-peer mentoring happening” (Christina, Interview, 1/19/2016). Teens often worked independently during Open Studio. I also saw instances of peer-to-peer-mentoring. During one of my visits, one teen comes over to another teen, who is a DJ, and says “ay yo, let me get your expertise right quick” as he comes from the recording studio. Teens with more experience in the studio are called upon by teens that are new to ARTLAB+ to help them on projects.

**Creative process of teens at ARTLAB+.** ARTLAB+ is a space that supports youth in making and engaging in creative work that represents their ideas. In alignment with HOMAGO learning theory, teens engage in interest-driven practices where they produce self directed art projects (Ito, 2010). In this section, I will give descriptive accounts of how teens describe their creative process, their journey towards finding a creative outlet, and their different approaches to making digital media projects in ARTLAB+.

***Finding their style.*** Several teens give accounts of finding their style and the journey of making a piece of work their own that is reflective of their tastes. Denitra is trying to find her style in music as she explains: “I’m trying to find my style. Because the first one, it wasn’t fully there...So I guess I’m still searching for my sound. I’m trying to find myself in my second one” (Denitra, Interview, 11/11/2015). In the middle of making a second song she voices: “it’s not working. I’m trying, trying, and having a little trouble” (Denitra, Interview, 11/11/2015). Denitra has recorded one song at this point in the studio. She wants her second song to “sound different and wants to get everyone pumped up” (Denitra, Interview, 11/11/2015). In order to find her style, Denitra listens to other singers who inspire her. This is a way for Denitra to “try to find that way of my own in music” (Denitra, Interview, 11/11/2015).

Jordan also turns to other artists for inspiration and ideas. He “looks up musicians to see their portfolios and the instruments that they use” (Jordan, Interview, 11/18/2015).

Jordan's process also involves "rearranging things on garageband, saving the song, putting it in his email and downloading it to his phone" (Jordan, Interview, 11/18/2015). Additionally, he makes a list of instruments, goes on youtube and garageband, and searches for songs online that match his ideas. Both teens process also involves listening to music to keep them on focus and using the internet for inspiration: "twitter, tumblr, and instagram for references to pics and quotes" (Denitra, Interview, 11/11/2015).

Part of finding their style involves making creative choices. One of the musical choices Denitra wants to make is what genre she should choose and if she should do R&B or Pop music (Denitra, Interview, 11/11/2015). The tension here is Denitra's love of Pop music. She notes that "black females usually do R&B not Pop" (Denitra, Interview, 11/11/2015). She is torn between the genre that she naturally gravitates to and the genre that is associated with her race and gender. There is confusion around what sound to go with as well as what audience she is searching for. Denitra is learning what it takes to create and record a song:

It's a big process. And before I would be like, so why is this person song not out yet, and I'm like it's not that easy to make a song! It's not that hard. And I'm just like. It's a lot of work. I'm tired already, it's a lot of work! (Denitra, Interview, 11/11/2015)



***Finding what works for her.*** Similar to Denitra, Beatrice is also on a journey of figuring out what works for her artistically. Beatrice had difficult times in the 3rd grade. Although she doesn't say specifically what was going on she addresses that she was "finding a way to help herself" and through this process "engaged in self harm" (Beatrice, Interview, 12/7/2015). Beatrice needed to find something that "her Mom wouldn't be mad at and that she could do forever" (Beatrice, Interview, 12/7/2015). This is when she started writing poetry. She found poetry to be therapeutic and it stuck with her. Beatrice explains that she did what she had to do "to make myself feel better, rather than what other children were telling me to do" (Beatrice, Interview, 12/7/2015). As Beatrice's poetry developed she also developed into the person she is becoming and growing into. "I became my own person when I decided I can do things" Beatrice says (Beatrice, Interview, 12/7/2015) Things in this case refer to workshops and visual and digital media skills.

Beatrice develops a writing process using her life experiences dealing with emotions. This differs from the type of poetry she is called on to do in school which involves researching other people. When writing about her own life experiences, she knows exactly what to do and what works for her when she is drawing on her "daily life" experiences. This allows her to feel confident about her work and her writing skills.

A theme in Beatrice's writing is sadness. Writing poems allows Beatrice to "get anger out and sadness out" (Beatrice, Interview, 12/7/2015). Although the poems are sad, Beatrice knows that this a strength of hers "I'm good at sad poems" (Beatrice, Interview,

12/7/2015). Additionally, Beatrice's process involves using pens, paper, and music to "get it all out" (Beatrice, Interview, 12/7/2015).

This writing serves as a therapeutic tool for Beatrice who says that "people need to get the sadness out of their lives." When Beatrice first began writing poetry she had a process where she got everything out and "no one needed to see it" and there was an act of burning the poems (Beatrice, Interview, 12/7/2015). Then something changed and there was a transformation. Beatrice started doing projects which she "laminates poems and is cool with people putting up her work" (Beatrice, Interview, 12/7/2015). Beatrice further explains this change: "the last composition book is done and I will end up keeping that one instead of burning it (Beatrice, Interview, 12/7/2015).

These creative decisions are deliberate and indicate shifts and changes in teen development. From burning composition books and not wanting anyone to see her poetry to laminating her poems and declaring that "if people want to put her work up they could" marks a radical shift in how Beatrice feels about her artwork and her writing abilities (Beatrice, Interview, 12/7/2015).

***Work ethic: mastering the craft.*** As the Mentors have noted making mistakes are accepted and seen as part of the natural path in learning a new digital media skill. In order to get better at something you have to work at it. This requires among other things discipline, time, and effort. As the teens develop their creative practice the kind of work ethic employed to sustain it becomes important. Denitra has a consistent work ethic: “I have to be here even on my worst days” (Denitra, Interview, 11/11/2015). This is fueled by her passion as she affirms: “I have to sing. I have to sing. I have to make music. I have to write. In order for me to write, I have to write now” (Denitra, Interview, 11/11/2015). Despite resistance from her adopted Mom, Denitra remains persistent: “after moving out of adopted mom’s house still tried to find ways to get my music out there. My adopted mom said I couldn’t sing that well. So I was just like okay. I’ll try to do me still” (Denitra, Interview, 11/11/2015). Mentor Christina who has worked with Denitra on her music speaks to her work ethic: “Denitra is one of those awesome rare people, that just really loves to work on projects. She’s always working” (Christina, Interview, 1/19/2016). Consistency is key to Denitra’s creative process.

Time is another component to teen work ethic. Another mentor, Gabriel, observes the drive and determination of teens at ARTLAB+ who worked on a zine about gender nonconforming people. He recalls excitedly how “they spent forever on it which was awesome...They just pushed it to the nth degree of the possible” (Gabriel, Interview, 12/10/2015).

Jordan works hard and spends a lot of time working on his craft. He recalls how

he can “spend the night, work, and make music in ARTLAB+ all day. I’m really strict on my music. There are other things I could be doing but I come here everyday” (Jordan, Interview, 11/18/2015). Staying on track when editing and creating music is a goal of Jordan’s as he “didn’t want to get unfocused” (Jordan, Interview, 11/18/2015). Additionally, Jordan’s process involves working on one thing at a time. He stays focused on one song and is sure to pace himself carefully “I can’t come in everyday and work on new projects...I’m not gonna stress myself out. Just take it slow” (Jordan, Interview, 11/18/2015).

Teens work diligently on their projects. The work ethic of the teens is evident. However, there is a tension that exists between the diligence displayed by teens as they work on projects and their desire to be in a fun, loose, and non-linear atmosphere.

The nature of teens’ work ethic is also influenced their interests and the scope of the project. One teen, Malachi, was selected to participate in a production team to videotape the artist Lil Buck performing at the Hirshhorn Museum. Malachi is experienced in Final Cut Pro a video editing software. On the day of the performance, Malachi was late and showed up nearly two hours after the initial start time. ARTLAB+ staff was stressed out due to this. Despite the late start to the morning which left little time for camera preparation the video taping went well. Afterwards, as part of the project, Malachi was scheduled to work on editing the video and audio footage to compile a short video for the Museum. Malachi ended up not coming in as planned the days following the performance.

Then out of the blue, weeks later, he comes in one day and starts to work on the project. He puts his headphones on, pulls up Final Cut Pro on the computer, uploads the video content and gets to work editing the footage. Mentor Christina, exclaims to him while he is working on it “I’m so happy you’re working on this” with a big smile. Malachi edits and edits the project. He comes in everyday and works alongside Christina on the project. Christina points out specifics of what she likes about his work “I like how he used moments from the audience and performer interaction”(Christina, Interview, 1/19/2016). And later, after he finished the project, she compliments his work ethic. She remarks how Malachi consistently came in at 4pm and worked until 8pm, for days to work on his own projects and how he has his own video production company. Christina spoke about Malachi’s work ethic after the end of a shift about how he will stay til the very last minute of ARTLAB+s programming and “it’s easy to get frustrated when you want to go home after working” but she admires his “hustle” (Christina, Interview, 1/19/2016).

This example illustrates the work ethic of teens at ARTLAB+ and the many factors that influence it. In alignment with the content of their creative projects, their interests drive their work ethic as Malachi’s efforts on his own work were swiftly followed by his work on the production team project. This experience also highlights the coaching and mentoring process involved in teen interest driven projects. Lastly, this experience shows the sense of respect and recognition that the mentors have of the teens as individuals who are capable of producing great work even if they mess up at first

***Discouraged and limiting beliefs in teen creative processes.*** Creating work in the arts and digital media can be challenging as one is often putting their personal into a public sphere. With passion and gusto come feelings of discouragement. Even with the sense of possibility that exists in ARTLAB+ teens expressed discouragement in different forms that they brought in from outside the space whether from school, friends, or family life.

Although Denitra was a regular participant at ARTLAB+ as she worked on her music she still felt as though she was not doing what she loves and was not doing as much as she can do to achieve her artistic goals. There is a tension and pressure that Denitra feels because she has aspirations of recording a song and pursuing a career in the music industry. She feels pressure about her age and a sense that time is running out. There is also pressure that stems from her family life as she wants to help her parents out with bills and be a good role model for her siblings. Denitra is persistent as she is learning to “find her style” of music and learning how to keep going in the face of obstacles such as discouragement from her adopted mother.

Beatrice is aware of her strengths and feels confident in her ability to create poems dealing with sadness. However, she expressed limitations around what she feels she cannot do in the arts: “could never paint or draw, nothing, I can’t do it” (Beatrice, Interview, 12/7/2015). And then with academics, “I’m bad at research but I try” (Beatrice, Interview, 12/7/2015). Doing research on a person she doesn’t know for a school assignment can be difficult for Beatrice who feels unsure of where to begin

writing poems on an assigned topic or person: “I don’t know what to do” (Beatrice, Interview, 12/7/2015). Jordan also expressed limitations around academic work: “can’t write no stories unless I take a class” (Jordan, Interview, 11/18/2015).

The nature of discouragement and confidence fluctuates over time. When Beatrice first attended ARTLAB+ she describes ‘I just couldn’t do it’ on making friends with others in workshops. However, this changed as she slowly became more comfortable in the space. She admits that she “has come out a lot since she starting coming” (Beatrice, Interview, 12/7/2015). One thing that helped was her interest in gaming and the ubiquitous video game activity at ARTLAB+ as well as some coaching from mentors. Christina observes some of these obstacles that come up with teens during their creative process,

They let their own self get in the way, distracted by other people or afraid of failure or “I suck at that game’ or ‘I’m not good at it. So many teens don’t want to try something new because they already think they’re bad at it. (Christina, Interview, 1/19/2016)

**Teen roles.** As teens develop a creative practice they become themselves.

Beatrice mentions drawing and photography as projects towards the act of her “becoming my own person. I didn’t find myself as an artistic person but this kinda looks artistic” as she points to a colorful poem and drawing she was working on (Beatrice, Interview, 12/7/2015). Beatrice becoming her own person and coming out of her shell is linked with becoming an artist and more importantly, seeing herself as someone who can *make* art and *be* artistic. As Beatrice follows her interests she is also being authentic to herself. For example, Beatrice says “a lot of people say why don’t you just do a happy poem and it doesn’t make me happy” and “to just be myself and not what other people are wanting me to do” (Beatrice, Interview, 12/7/2015). This is evident in small tiny ways as Beatrice states that she “dances to pop music with her friends at parties but doesn’t listen to this music on her alone time” (Beatrice, Interview, 12/7/2015). Beatrice chooses for herself what she wants to do with her time instead of following the interests and goals of others. Beatrice states that “it took me a long time to learn how to be good to myself” (Beatrice, Interview, 12/7/2015). Through her writing Beatrice is becoming someone that practices self-care.

The work that Jordan is doing in ARTLAB+ assists in the enactment of his future self. Jordan was researching to figure out where he can get a trainer for his music and took the “opportunity” to come to ARTLAB+ because it will prepare him for the music program at George Mason University. Jordan envisions speaking to future teachers “Professor, can I show you what I can do?” (Jordan, Interview, 11/18/2015). Jordan



describes his vision for demonstrating for the Professor his knowledge and capabilities with musical instruments.

Jordan stretches himself beyond the limited role of a student in a high school special education and says that “Special Ed don’t stop me” (Jordan, Interview, 11/18/2015). He is cognizant of his disability and how this makes him different from other students. He says “I want to be with other people” (Jordan, Interview, 11/18/2015). A clear aim of Jordan’s is to pursue a college education and to be around other types of people or as he puts it “regular students” (Jordan, Interview, 11/18/2015). There is a bigness to Jordan. He is expanding himself beyond the identity of someone with a disability. ARTLAB+ provides a space for Jordan to realize his goals of assimilating and being with “regular” teens beyond identity created by school and society as a student in special education classes.

Teens in ARTLAB+ become leaders in addition to becoming themselves as they develop a creative practice. Leadership emerges at ARTLAB+. Maya is a quiet teen who enjoys traditional maker activities and sculpture. Christina gives an account of her initiative:

She sat there, made that dinosaur, and other teens were like ‘Oh my gosh, oh my gosh!’ That really changes a mindset of the space. Look at what she’s doing. I can make something too. (Christina, Interview, 1/19/2016)

Maya’s interest in sculpture and making drove her to make this gigantic T-rex. The workshop opened up a door and the mentor taught her a new technique and gave her a

prompt. From there she took the lead as Christina recalls: “No mentor was saying ‘Hey you should make this or that.’” She became a leader because she wasn’t a leader that we normally think of. She was leading by example” (Christina, Interview, 1/19/2016).

Leading by example is similar to Beatrice’s style. Beatrice is a quiet leader. She is someone who follows her own interests and feelings of what feels good for her instead of doing what other people are doing. Beatrice “keeps to herself” (Beatrice, Interview, 12/7/2015). She plays to the more introverted qualities of leadership which are listening and doing what is best for her. These actions provide a model of good behavior for other teens. Additionally, Beatrice has experience in peer mediation in her high school. She speaks about avoiding drama, “I didn’t see it for awhile, but after the peer mediation thing I saw it for myself” (Beatrice, Interview, 12/7/2015). Beatrice goes after and does what feels good for her instead of following others or doing what others say that she should do, “what other people do is just not what I find good. I like that about myself” (Beatrice, Interview, 12/7/2015). She is comfortable being her own person and does not feel pressure to follow the crowd.

It is not always clear how leaders come to be at ARTLAB+. As Christina says “leadership emerges. I don’t really know what the makings of a leader are” and then later “it has nothing to do with us” (Christina, Interview, 1/19/2016). Christina is open to a definition of leadership that the teens create for themselves, as well as leadership where teens take ownership. Both Christina and Gabriel point out that Steven, a DJ that regularly participates at ARTLAB+ is a leader. Christina describes his impact on the

space:

ARTLAB+ would suffer the day that Steven wasn't there. You could count on seven teens not coming that day. He's just a natural leader of that group of kids. It kind of has nothing to do with us or what we're doing. It's good and not so good if that leader might not be the best role model. (Christina, Interview, 1/19/2016)

This last part alludes to the fact that teens may look up to certain leaders at ARTLAB+ that might not engage in behavior that should be modeled.

### **Radical Inclusivity at ARTLAB+**

The words "radically inclusive" are in the descriptive statement of ARTLAB+. In the "about" section on the website the description indicates the special programs, mentorship, and collaboration that aim to strengthen the critical and independent thinking skills of the teens. Additionally, included in the mission statement is the aim to "give teens the opportunity to develop marketable skills to lead the next generation of innovators." From the accessibility of the programming, to the diversity of the teens, to the flexible nature of programming, ARTLAB+ creates an inclusive environment for its participants to innovate and create. In this section I also trouble the radically inclusive part of ARTLABs intention by illustrating features of the learning environment that fail to create inclusion. What seems most important in creating a radically inclusive environment for all teen participants is welcoming and encouraging diverse participants, the creation of a democratic decision making structure, and creating a flexible programming structure.

**Diversity.** Diversity in the studio is welcomed, encouraged, and sought out. The mentors recognize that there is:

Diversity across the board. We welcome it. There is a larger transgender group of people coming in, LGBTQ people are coming to ARTLAB+ now, we've gotta keep that, we want it to be inclusive. We want all types of people there.

(Christina, Interview, 1/19/2016)

Embracing a diverse population also benefits the work and projects at ARTLAB+ spurring innovative thinking as Christina elaborates: “diversity of teens is gonna make for better art. I mean we can't force anything to happen, but we welcome it” (Christina, Interview, 1/19/2016).

Teens are come into ARTLAB+ for a diversity of reasons. Take Jordan for instance: “I'm stepping up my game” and wanting to prepare for college courses (Jordan, Interview, 11/18/2015). Denitra is moving closer towards her goals in the music industry. Beatrice utilizes the space to practice self-care, self-expression, and to manage emotions and life experiences. Some teens use the space to experiment and try new things. Then there are teens who come to ARTLAB+ primarily to hang out and make new friends. Other teens come to ARTLAB+ as a refuge, as one teen, after the space opened up after the winter break, exclaimed with his arms open wide that “this place is my sanctuary.”

The lack of designated physical spaces for activities promotes free flowing shifts from one project or idea to another. For example, one teen working on photoshop at the Mac desktop computer, sits next to a teen creating a 3D dinosaur using the 3D printer

exchange ideas about animation techniques. Christina speaks to this diversity of teen interests: “we have such a diverse group of teens here. Every teen is so different from one another. We have video people, music people, video game people. Everybody here is into different things” (Christina, Interview, 1/19/2016). Recognizing that each teen has different and unique interests gives mentors the ability to approach each teen and their projects with an individualized plan. This recognition is also helpful for building mentor teen relationships based on knowing the whole person.

Cultivating a diverse teen population gives teen opportunity to interact and work with teens who they might not normally engage with. Ryan Hill describes this more:

Teens getting to know each other outside of their comfort zone, having confidence to be open to differences and experiences and work on projects together and not be subject to judgement that happens in high school. There is an enormous amount of freedom. (Ryan, Interview, 06/02/2016)

For example, Jordan expresses his feelings about what it’s like to be at ARTLAB+ “everybody deserves to be here” (Jordan, Interview, 11/18/2015). This sentiment stands out to me as Jordan is someone who speaks openly about the Special Ed classes he is in at his high school and his desire to be with as he puts it “regular students.”

This egalitarian bent sometimes takes on an idealistic tone, such as Gabriel’s assertion that: “there’s no classism, sexism, any ism’s. I think we level the playing field. There’s no one set group” (Gabriel, Interview, 12/10/2015). And then later recognizes, “we still have certain people who have tough times. There are the totally underprivileged

and the privileged and there's no conflict ever" (Gabriel, Interview, 12/10/2015). While it is ideal to conceive of a space where there are no ism's, issues of identity, however, do come up during workshops at ARTLAB+. For example, Christina discusses the topic of gender while working with a teen:

It's Denitra's first time in the booth, so I want to make sure she gets in. And to have a female getting into the booth, that's a big deal. The sound booth is mostly 99.9% boys. Only had a few girls get into it. A lot of the girls that do come to ARTLAB+ seem more into drawing and illustrating. (Christina, Interview, 1/19/2016)

The level playing field that Gabriel states apparently has not always been the case. For example, during the zine making workshop teens became comfortable identifying as a male for the first time. He expands more on the issue of gender in comic book spaces:

The whole zine thing, comic books are dominated by males, sexist but tons of zines, the women are just killing it. There's all these girls now coming in here. Apparently ARTLAB+ used to be mostly male, mostly male to female ratio, now it's about 50/50. (Gabriel, Interview, 12/10/2015)

Jordan's sentiment indicating that "everyone deserves to be here" brings to mind ARTLAB+'s qualities of belonging and inclusion. Everybody deserves to have and to be in a place that is fun, comfortable, where people are excited and are creating and building things. Everyone deserves to be in a place where the mentors are friendly and where the environment feels warm, positive, welcoming, and supportive. Everybody deserves to be

in the kind of environment that exists in ARTLAB+ that teens describe as fun and high energy. Everybody deserves to have a safe place to be together with friends and a place to pursue interests freely. A place where teens such as Beatrice can come to learn about themselves. A place that invites teens to explore new aspects of their identity such as the teens who created the zine on gender non conformity. A place where teens can create and ideate projects without fear of repercussion if they make mistakes. Everybody does deserve to be here.

**Democratic decision making.** In the beginning ARTLAB+ had town hall meetings where “staff asked for feedback on what works” (Ryan, Interview, 06/02/2016). I observed one town hall meeting where the topic was marijuana usage. Staff observed behavior and scents indicative of marijuana usage happening outside the space. During a staff meeting, artist mentors discussed ways to navigate the possibility of teens coming into the space under the influence and the implications of that on the creation of a safe space. The mentors held a townhall meeting during open studio to discuss in an open and non-judgmental format what teens think of people coming into ARTLAB+ under the influence of drugs. Teens spoke and gave their feedback. One teen commented that she doesn’t appreciate the smell of marijuana while she is working and doesn’t think people should come into the space if they are high. Another teen said that people respect others’ decisions and that their outside activities should not determine being eligible to participate in the space.

The meeting ended with the mentors stating that they are not here to judge teens’ decisions; however, ARTLAB+ does not allow drugs to enter the space. Mentor Christina stated: “we are not here to judge you, I don’t care if you smoke weed in your free time. We are not here to judge if you smoke or don’t smoke and we also don’t know if anyone in here smokes.” This format invited the teens to be a part of the rules and policies in ARTLAB+. These town hall meetings are examples of shared decision making that facilitates teens exploring and expanding their social roles in society.



**Flexible structure.** A flexible programming structure is integral to ARTLAB+. From the beginning, fun was an aim as well as the ability to be agile and adapt to change as Ryan Hill expresses: “I am weary of trying to control environments that are based too much on control and not enough of expression” (Ryan, Interview, 06/02/2016) The staff do not want to control the environment at ARTLAB+ to the point of creating a rigid and inflexible system, however they realize the need for some structure. Hill states that mentors and educators “do need to create a structure in which people can participate before you expect participation. Younger adults need structure” (Ryan, Interview, 06/02/2016). Mentors are flexible in creating programming based on teens interests, as demonstrated through taking new approaches and offering blipshops and registration based workshops. As we can see from the teen interest driven projects of the papercraft and zine making workshops, some structure is important in facilitating the process of teens discovering and pursuing their interests. The mentors want to continue this design while allowing room for adjustments.

Thus, the nature of programming at ARTLAB+ is adaptable to teen interests. Mentors noticed that teens participation in workshops had dropped drastically so they altered their approach by creating Open Studio, piloting blipshops, and opening registration based workshops in the Spring of 2016. Mentors pay attention to teen interests and activity and design programming from there. As Christina says: “ARTLAB+ is always changing based on what kind of teens we have in the space, what their interest are, and what we think works” (Christina, Interview, 1/19/2016).

This flexible approach is also taken into account when creating recruitment plans.

Christina elaborates on recruitment:

We're flipping it a little where instead of going to the schools, we're inviting schools to go to ARTLAB+ and visit the space, participate in a workshop, and use equipment. You have a teacher guiding you into the sculpture garden and it's not as hard to find. If you use the equipment with permission it feels more comfortable to go in on your own. You're a teenager it's kinda like what do I do here? (Christina, Interview, 1/19/2016)

Teens and their experiences are critical to the staff's approach to scheduling and recruitment.

Mentors also have flexibility in their work schedules. Christina has worked at ARTLAB+ since February 2013. She took a four month break from ARTLAB+ to work full time at a video production company. She realized that working full time did not work for her schedule, "I have a lot of side projects, several small side projects, and it's hard for me to work full time and be a working artist" (Christina, Interview, 1/19/2016). Several of the mentors at ARTLAB+ are also working artists. For instance, Gabriel teaches at other community art programs in the DC area. The flexible working schedule allows mentors the space and freedom to practice their art which in turn nurtures the education of the teens.

**Accessibility of workshops.** The workshops at ARTLAB+ are low barrier to entry. There is an ease with which teens can participate in the workshops. This ease is by

design and intention. The nature of teaching and learning at ARTLAB+ is social and aimed to be fun for all participants of varying levels of experience and knowledge.

For example, Beatrice describes a fun game-oriented workshop: “involving Garageband and being in teams where one team plays guitar hero and the partner would be writing the song” (Beatrice, Interview, 12/7/2015). Christina describes this workshop:

One of my favorite workshops called Battle of the Bands. What we did is we had teens pair up and get into small groups and make a band and while one of the band members was working on Garageband, their band mate was playing the video game Rock Band. Maybe they were on guitar and once that Rock Band song was over, they’d switch and now the guy that was playing Rock Band is adding a guitar line into his team mates drum beat, that she put in Garageband. (Christina, Interview, 1/19/2016)

Creating fun learning experiences that are game-oriented invite participate of all backgrounds to join in. The Battle of the Bands workshops involved “very very disguised learning” as teens make use of the rhythm, dexterity, hand eye coordination, collaboration, and learning of software necessary to participate (Christina, Interview, 1/19/2016). Teen learn how to play an instrument and learn how to work with others. Intertwining learning software with socialization, fun, and competition Christina recalls: “I saw so much learning happening. That’s my best workshop” (Christina, Interview, 1/19/2016).

During this workshop teens developed the skills on the guitar “really quickly and

they'd go from playing the guitar on Rock Band to easy to playing that same song on hard in one night" (Christina, Interview, 1/19/2016). This engaged teens in areas of interest such as video games and music while creating space for all to join even if they do not have any prior experience with either.

Gabriel speaks to the ease with which teens at ARTLAB+ can participate in workshops when describing the zine making workshop "it gives anyone a voice... so easy to participate." His approach to teaching workshops creates multiple points of entry and access: "I hate giving them such strict guidelines. I want it open ended as possible" (Gabriel, Interview, 12/10/2015). Although the drop in nature of the programming pose constant challenges to the Mentors, this design also facilitates accessibility as Christina says "because we're drop in we sort of have to have a low barrier to entry" (Christina, Interview, 1/19/2016).

**Accessibility of certifications.** Gaining a new skill set in digital media through the process of getting a certification, or a cert as mentors and teens call them, is also designed to be accessible. Christina speaks to what certifications are: “certifications are a way of letting us and teens know that they have mastered a certain professional level skill. They are used as an assessment tool, a study tool, or a learning tool. They have vocabulary terms on there and skills areas that teens can work on” (Christina, Interview, 1/19/2016). Similar to workshops this process is designed to be low barrier to entry “we have some certs that are really low barrier to entry like the apple computer cert or the basic 3D printing cert. You can do that in a day” (Christina, Interview, 1/19/2016).

The reasons teens decide to get a certification vary. One reason is the incentive they provide for teens who are committed to their projects such as Jordan and Denitra who are interested in music production. Denitra was certified in Garageband which means that she can use the sound booth and record music. This process involves a set of preliminary questions about the software that teens have to answer to a mentor, and then teens complete a series of tasks associated with the cert which might involve creating a piece of music.

Alternatively, a teen may wish to pursue photography and want to get the DSLR camera certification which involves a skill oriented task and creating a series of photos with certain settings. This allows teens the ability to check out and safely use a DSLR camera.

ARTLAB+ staff designed the process of getting certified to be friendly. Teens can

grab any certification off of the corkboard on the left wall in the studio. As Christina says:

The process is informal. Teens make the decision either with a push from a mentor or usually just on their own to take the cert and they grab it off the wall. There's no multiple choice, there's no short answer, it's all skill oriented. We have a lot of teens that will take a certification their first day here. (Christina, Interview, 1/19/2016).

Certs thus appeal to newcomers in addition to the regular participants. In this way, getting a cert is low stakes. Christina describes “the cool thing is there's no repercussions if a teen doesn't pass and I usually let them take it the next day” (Christina, Interview, 1/19/2016). However, I would argue that there are repercussions. Those with certs have status and are granted access to certain privileges in the space and those who don't have certs do not have these same statuses and privileges. In addition, young people judge each other's ability to pass certs.

Certs are completely up to the teen in terms of when they want to take a cert and what cert they want to take, “when teens choose to take the certs vary depending on teen interest and where they are in a particular skill area” (Christina, Interview, 1/19/2016). In addition to being low barrier to entry, the mentors also create a low stakes environment in the studio. Low stakes added to the studio being a comfortable space allows more shy teens such as Beatrice the space to come out of her shell. Her description of the workshops illustrates the aim of ARTLAB+ staff as she says “and all of it is fun”

(Beatrice, Interview, 12/7/2015).

Although certs are accessible to take, some of the media in the space is off limits to those who do not have the certs required to use that tool. Christina explains this further:

A few certs are tied to privileges in the space. Garageband is one of those certifications. Any teen that gets any audio cert whether Garageband or one of three Pro Tools certs or R2D2 Tracktor cert can book the sound booth for one hour. Or two hours if they get all 3 Pro Tools certs. (Christina, Interview, 1/19/2016)

Thus, certs allow access to different types of equipment in ARTLAB+ as well as deny access to digital media equipment. According to Christina, “If they don’t have any audio certs they can’t book the booth” (Christina, Interview, 1/19/2016). However, there is some flexibility in this. Teens who are not certified in audio equipment still have the opportunity to learn and be in the booth with others who are certified in that skill area and can give them permission to be in the booth.

If a teen does not have a particular cert they may be denied access to equipment and parts of ARTLAB+. For example, the process of needing to have a cert before using the sound booth creates as Ryan Hill puts it, a “need to earn a right to use certain equipment” (Ryan, Interview, 06/02/2016). This can be hard. While this stems from staff wanting to empower and motivate teens to develop new skill sets, factors such as time and effort may impact whether or not a teen is able or not able to obtain a cert. For

example, if teens are not consistent in their participation at ARTLAB+, their ability to re-take the cert is obstructed. Or, if they have an interest in photography and wish to use DSLR cameras, yet are not able to pass the cert, their use of the equipment is limited.

Digital media equipment is stored in locked cabinets near the Cyber Navigator's desk on the right side of the studio across the wall where the certs hang. The equipment is easy to see as the cabinets have windows. However, teens cannot go up and grab whichever piece of equipment they wish to use instantaneously. Teens must first ask the Cyber Navigator and present their ARTLAB+ ID in order to check the equipment out under their name. If teens are allowed to use the equipment, depending on whether or not it requires a cert, for example a DSLR camera, the Cyber Navigator will then use a key to open the cabinet and retrieve the equipment.

### **Troubling the Radical Inclusivity**

ARTLAB+ is inclusive however this inclusiveness has limits. There are restrictions around what digital media equipment and physical spaces teens can readily access and barriers around age. For example, the door of the back room has a sign posted that says "no teens back here. Ask a mentor if you need something from this space." Additionally, there is a sign in the kitchen that reads: "teens do not open cabinets. Cabinet doors stay closed. Ask a mentor if you need to get something." Mentors encourage teens to take ownership of their learning and their artwork and provides opportunities for shared decision making yet at the same time there are physical spaces that are clearly off limits. This might send the message that teens are given access and



shared decision making in some areas of ARTLAB+ and not others leaving the power in the hands of the Mentors in a space primarily for teens.

As mentioned above the digital media equipment is stored in locked cabinets which require an ARTLAB+ ID and a request from the Cyber Navigator to sign equipment out. Technology and activities such as desktop computers, sewing machines, books, construction paper, pencils, and paints, are easily accessible. The bulk of the media equipment including laptops, iPads, audio production tools, speakers, keyboards, and DSLR's cameras remain in the cabinets.

In addition to certain limitations on equipment and space access, there is also the age range permitted for entry. ARTLAB+ is open to teens 13-19 and after they turn 20 they are not able to participate in the programming. There is currently not an alumni program. According to Christina, staff members do not “track what happens to teens after they age out. Some teens who were heavily invested program might stop by to say hi and tell us what they’re up to, but aside from that we don’t have a system in place for alumni” (Christina, Email, 2/3/2017). I observed alumni visiting their friends in the space and coming back to hug mentors and catch them up on what they are up to. However, these interactions seemed awkward as there are time limits placed on the duration of these visits. Alumni are allowed to come back for “five minutes” at a time, as I observed one mentor call out when an alum swung by one evening: “okay, you can come in and say hi but you gotta leave in five minutes.” Teens such as Jordan are cognizant of this policy as he spoke about his desire to stay at ARTLAB+ until he “ages out” (Jordan, Interview,

11/18/2015).

Providing an inviting and welcoming environment is important, however, sustaining the relationships with teens is an essential part in creating an inclusive learning environment. Ryan Hill states “asking them to move to community that doesn’t embrace difference, they’re not going to stay very long. It’s a big issue. Retaining is next step to inclusion” (Ryan, Interview, 06/02/2016). Everyone that participates at ARTLAB+ has a role in creating the space. Seeking the feedback and opinions of the teen participants in every aspect of the programming can contribute towards achieving the mission of the space.

## **CHAPTER FIVE: CONCLUSION**

In this thesis, I examined how and what teens learn in a after school drop in digital media studio and what features create a learning environment at ARTLAB+? I contribute to the growing body of research on youth learning in digital media studio's by providing evidence of successful learning in an after school drop-in digital media studio for teenagers. I conducted an instrumental case study (Stake, 1995). This research yielded four main features: the physical and emotional environment of the studio, the teen mentor relationships, teen learning process, and teen creative process.

There is a robust body of research on digital media and learning among diverse youth populations (Barron et al., 2014; Erstad, O & Sefton- Green, 2013; Ito, 2010). Despite increasing research on the value of hands on making experiences and the value of learning with new media and digital technologies, as well as increased opportunities to learn new media skills in different environments, there remains inequities in terms of who is participating as well as the resources of support to participate fully (Davis & Fullerton, 2016; Larson et al., 2013).

The conditions of fun, comfortable, exciting, social, and sense of possibility that mentors create in ARTLAB+ cultivate a sense of belonging and inclusion. Inclusivity and

a sense of possibility in the studio come together to create space for the diversity of ideas, projects, and learning styles that teens bring to ARTLAB+. The social nature is a big part of participating in the studio. It is also not forced. There is a link between the social nature of ARTLAB+ and the radically inclusive part of the mission statement in that there is a desire that mentors have for the teens to join in with the programming. Beatrice speaks to this as she describes the benefits of engaging with other teens “instead of being alone in a chair” (Beatrice, Interview, 12/7/2015). The design of programming and the features of fun and excitement, flexibility structure, mentors being adaptive to teen interests, the cultivation of a diverse teen population, and the creation of accessible pathways to participate in workshops and gain certifications create a radically inclusive learning environment.

These conditions also help to facilitate taking up identities available in the space for the teens. For example, if teens are in a space where they can be makers, artists, designers and innovators, they are more likely to take up these roles if they are comfortable (Suad Nasir, 2012). Two teens, Beatrice and Aeronia, emerged as “quiet leaders” as they took initiative on and leveled up on independent projects and pursued things that they found interesting, regardless of what other teens were doing.

The intentional creation of social hubs cultivates inclusion in ARTLAB+. This aligns with the social aspect of arts based learning as Blum & Livingstone (2016) writes “a lot of them come because it’s friendship, making friends, the social element... really helped such and such a person come out of their shell.” Gabriel asserts that the social

aspect is one of the primary reasons that teens come to ARTLAB+. We can see in the account of Beatrice the transformation that takes place when there are pathways to make friends and connect, teens become themselves by coming out of their shells and discovering their interests in Open and Independent Studio.

The nature of teens bringing friends into the space and connecting them to learning opportunities is connected to literature on brokering (Barron, Gomez, Pinkard, Martin 2014). Brokering in and peer supports sustain youth interest and participation in creative projects over time. One teen Amelia, the creator of the gigantic T-Rex, expressed an interest in sculpture and architecture. She says that this was spurred in part by a previous mentor interests and background in sculpture. She expresses how much she misses this mentor and her relationships with current mentors and teachers in her life and her love for them (<https://www.instagram.com/artlabplus/>). These mentoring experiences further supported Amelia in developing and pursuing her creative practices. This points to the important role of relationships in bringing youth into interest related activities as well as how to further their interests and opportunities to strengthen their skills (Van Horne, Allen, DiGiacomo, Chang-Order, Van Steenis, 2016).

The hands off teaching style of mentors and the structure of Independent Studio support teen interests and give teens the ability to take control and direct their learning. Gabriel discusses his instructional style that prioritizes self-directed learning and teen voice: “it’s much more fun for them to feel like they’re doing everything themselves, they’re making their own projects” (Gabriel, Interview, 12/10/2015). Self-directed

learners are able to ask appropriate questions, identify the necessary tools and materials, use tools appropriately to solve problems, and think critically to question assumptions as well as become reflective about their learning (Dyner, Cate, & Rhee, 2008). Teens who are self-directed decide what pace the learning will occur and are accountable for their own learning. Thus, teens in ARTLAB+ are able to learn how to be proactive, take initiative, be persistent, and goal oriented.

Inclusion in the studio is cultivated by celebrating, encouraging, and welcoming the many genders, sexualities, ethnic backgrounds, interests, and learning styles of the participants as well as giving time and space for ideas and projects to take shape in their various formats. Such as the zine making workshop where participants leveled up and furthered the project beyond mentor expectations. Additionally, creating accessible ways for teens to easily participate in the programming and to learn new skills cultivates inclusion as well as the belief that permeates the space, that anything is possible for the participants, that there are infinite possibilities for them to create and learn anything. The sense of possibility relates to the “leveling up” component of the mentor's style of teaching. When a mentor facilitates a discussion with teens, gives a prompt/demonstration, and gives ample space and time for teens to work on projects independently or in groups, there is no limit to where the teen directed work will go and what new levels they may reach.

ARTLAB+ programming and staff empower teens to be creative and independent thinkers. The sense of possibility and inclusion come together to stir the imagination of

teens and mentors in the studio. For example, mentors provide teens with the time, space, and autonomy to explore their curiosities such as making zines, gigantic 3D papercraft T-Rex, and poems. According to Kurti, Kurti, Fleming (2014), makerspaces encourage independent exploration and “owning the learning experience.” The open ended discussions followed by prompts, allow teens in ARTLAB+ freedom to pursue their ideas. One of the mentors speaks about his instructional style as he says that he likes to “keep it loose” when teaching. There is not a need to follow strict guidelines or a rigid series of steps. Similar to mentor Christina, he is hands off, while giving lots of room for teens to make mistakes and explore their imagination. This is also in alignment with Gabriels’ statement on the importance of play and the style of mentors leading workshops that stem from the interests and topics that come up when hanging out with teens.

In alignment with the instructional approach, mentors also practice acceptance of teens interests which supports retention. A majority of the teens at ARTLAB+ express an interest in hanging out, chatting with friends, and playing video games. The mentors realize this, accept this, and allow teens the space and time to do that. Additionally, mentors are adaptive and nimble supporting the changing populations and interest of the teens. They are comfortable changing the schedule, taking month long breaks to reassess the programming, and holding town hall meetings to determine how to move forward. Mentors demonstrate acceptance of teens by creating an environment where teens have the space to ideate and work on creative projects without interruptions. For the most part mentors do not interfere with the creative process of teens unless it is due to timing and

the studio is closing or teens are acting disrespectfully. Mentors check in to see if teens are making progress and lend assistance if they are called over.

Another thing mentors do to support and retain the engagement of teens with digital media is create multiple pathways to learn in and outside of ARTLAB+. This is done through offering a variety of programming such as: workshops, open studio, blipshops, independent studio, and production teams. Other access points include the variety of tools and resources available in the studio. Christina illustrates creating a workshop that involved multiple pathways for engaging teens in the Rock Band workshop. Teens learned dexterity, collaboration, and how to make music. Video game play was an access point which is also a popular activity for many teens. Mentors create multiple pathways by instructing teens in how to use paper to create 3D sculptures, which developed into creating 3D paper sculptures using online applications. Another mentor instructs teens to use pens and pencils to draw human heads which then led to creating zines and comic books. The possibilities are endless when you have a multitude of tools, resources, and mentors at your fingertips.

Artist mentors create a learning environment where teens have space to come up with and work on creative projects interruptions. For the most part mentors do not interfere with the creative process of teens unless it is due to timing and the studio is closing or teens are acting disrespectfully. Mentors check in to see if teens are making progress and lend assistance if they are called over.

Fleming (2015) speaks to the characteristics that teens develop in maker learning



such as risk taking and embracing failure. ARTLAB+ staff embraces teens making mistakes and taking risks which can spur innovative thinking. As Christina worked with Denitra one on one, she emphasizes encouraging her to just go for it and not to worry about sounding bad or messing up during her first time in the sound booth. The space created to take risks and embrace failure invites teens to be persistent and to persevere through obstacles.

ARTLAB+'s programming is consistent with the Connected Learning framework formed by the three principles of interest-driven, peer-supported and academically-recognized learning (Ito et al., 2013). This framework builds on the idea of networks of learning, or learning ecologies. Teens engage with digital media and technology in every sphere of their lives. I highlight the relationships and experiences that teens have outside of ARTLAB+ with adults in school and home in order to indicate how teens are learning through the interconnectedness of these different networks of knowledge. The results of this research align with the aims of Connected Learning in that it seeks to make digital media and learning among diverse youth more equitable and accessible.

Interest-powered learning, one of the defining characteristics of the Connected Learning framework, is connected to politics (Ito et al., 2013). Youth in ARTLAB+ are driven by their interests which are grounded in their everyday lived experiences. Beatrice is driven to create poetry, both a creative outlet and a therapeutic tool that helps with processing emotions to “get it out” and to “help myself feel better” (Beatrice, Interview, 12/7/2015). Through poetry she states that she learned how to be good to herself. This

creative process is grounded in Beatrice's life where there were previous actions of self-harm as she started having "problems" in the 3rd grade. Writing poetry then is more than an interest driven pursuit it is a survival mechanism. Additionally, the interests around gender identity issues were a driving force for the two teen creators of the zine on the gender spectrum. The need and desire to inform people in their community of how to converse with non-binary youth and what pronouns are appropriate reflect their experiences in the world and how they might have learned to navigate and respond to experiences where their gender identities might have been an issue. Furthermore, this activity reflects teens experiences grounded in unequal power dynamics and the need for teens to assert the language around their identities that they deem are non-discriminatory. These creative projects position teens with a sense of agency.

Johnson, Adams Becker, Estrada and Freeman (2015) speak about the future oriented entrepreneurial skills that youth can develop in digital media and learning communities. Digital media studios give teens opportunities to participate in authentic learning experiences. The production teams offer opportunities for teens to utilize their digital media skills in a real world collaborative setting. Additionally, ARTLAB+ supports teens academically while they are in high school as well as teens who are interested in attending college. After the studio reopened in March, staff offered the "Studio Assistants" program which gives teens the opportunity to shadow and lend assistance to an assigned mentor with similar interests in digital media. This program also gives teens the possibility to be a more official, peer mentor in the studio to teens, as well

as opportunities showcase their work at the end of the Studio Assistants term. This program was positioned as a learning opportunity for teens to further define their skills in one area as well as a resume booster for work and good material for college and scholarship applications.

Engaging in an individual creative process in a communal environment works in a number of ways. Teens have the space to pursue independent work while the fluid design of the space encourages cross disciplinary collaboration as teens can easily move from one seating or standing area to the next. The fluid nature and non-designated working spaces offer opportunities for interdisciplinary projects as well as peer-to-peer mentorship. Participants make buttons on the work tables alongside those working on the sewing machine. The openness of the design in the studio mirrors the open flow of ideas exchanged as friends and new teens make projects and create community. Furthermore, the ability to give feedback and critique is abundant as participants and mentors can engage openly with one another in close proximity while working on projects. I overheard teens give feedback on other teen's projects in the work table area. Teens might become inspired to try different approaches and methods as well as try new digital media equipment. One teen started off working on a sewing project and then saw another participant working with a DSLR and decided she wanted to try photography. Another teen was working on a painting and looked over and saw another teen making buttons and decided she wanted to try button making for the first time using some of the drawings she had made.

Research sheds light on the media activities teens engage in, what devices they use, and how teens make meaning out of their digital media use (Common Sense Media, 2016). These findings are consistent with reports that reveal the complexity of teen media practices as it relates to how these practices are interconnected with their relationships, their parents' practices and resources, and their home life (Common Sense Media, 2016). Understanding teen use of digital media and making meaning of how teens use different types of media in ARTLAB+ is inextricably linked to understanding the complex nature of their media practices. Further consideration into how teens are using digital media at home, school, and with friends will lead to deeper understanding of how teens make meaning out of their digital media practices in learning environments.

## **Discussion**

Youth digital media studio's stem from educational philosophies that emphasize the importance of creating artifacts out of one's ideas and the benefits of hands on and project based learning. Digital media and learning communities have roots in the learning theories of Papert's constructionism and the New London Groups multiliteracies. This study stems from research on Connected Learning. One of the characteristics of this framework is that it is interest-driven and socially embedded, which links personal interests to career aspirations, academic achievement and civic engagement (Ito et al., 2012). In this thesis, I contribute to the growing body of research on youth learning in digital media studios by investigating the questions: 1) how and what do teens learn at ARTLAB+? and 2) what are the features that create a learning environment at

## ARTLAB+?

As we continue to make advances in technology and media, opportunities for teens to become engaged as active citizens and producers of new media will be abundant. There is a need to think about the design of learning environments in the building of these futures. As digital media spaces continue to proliferate, educational practitioners and researchers will need to analyze and understand what teens are learning in digital media studio's and how. Additional attention should also be paid towards understanding how these spaces can function as inclusive learning environments for all. The findings of this study and insights from this thesis have valuable implications for designers of informal learning environments and teachers and mentors of digital media. I discuss limitations to the study I conducted and outline implications for the audiences above.

**Limitations.** The timeline of this small case study was short term consisting of three months of fieldwork. When I was hired to work at ARTLAB+ in March 2016, however, I continued making observations and was able to document some of these programmatic changes and interactions between teens and mentors. This gave a fuller picture of the studio, the programs, and the relationships within the space, building onto the previous amount of fieldwork. Considering the transitions in the studio, and the changing teen populations, there is a great opportunity for more longitudinal studies to trace the development of ARTLAB+ over time.

The timing of this research study coincided with the suspension of the programming as ARTLAB+ was set to close from mid-December to late February.

Before this break, staff had stopped offering daily workshops and Open Studio and Independent Studio were the main programs. Observing workshops firsthand and interviewing participants and mentors during the time that they occurred would have given meaningful insights into teen learning during more structured programs. I gained most of my information about workshops through interviews. It would have given a different perspective to gain raw first hand field notes from the workshops, where the mentors drew so much of their examples from this time. I often felt as though I was observing a lot of the “hanging out” portion of HOMAGO. This feeling although a perceived drawback, allowed me to focus on the seemingly mundane and quotidian aspects of the studio. As Christina notes “you see it in small tiny ways” referring to peer to peer mentoring that occurs in ARTLAB+ (Christina, 11/19/2015, Interview). As Christina says “some of the teens, if a kid wants to learn how to DJ, most of the time instead of coming to me, they just go right to Steven. And he will gladly teach them how to DJ” (Christina, 11/19/2015, Interview).

Furthermore, I intended to conduct follow up interviews with more of the youth that I interviewed. This was not possible with every teen as some stopped attending the studio or were not able to interview due to time constraints or if they were present but busy working on a project. These findings are intended to provide a window into the programs and activities at ARTLAB+ rather than make generalizable claims about all youth digital media studio’s. My goal of this study was to understand how and what young people are learning in ARTLAB+. During the study, it became clear that there is

more depth to These findings are intended to provide a window into the programs and activities at ARTLAB+ rather than make generalizable claims about all youth digital media studio's.

**Implications.** I outline main implications of the findings of this thesis for practitioners, designers, and scholars of youth digital media studios. Further research could focus on the broader networks of support and influence in a teen's life. Awareness of the people, places, and activities teens are engaged in beyond digital media studios will enhance the learning and engagement of teens.

**Inclusion.** The radical inclusion aim of ARTLAB+ involves making participation accessible through low barrier to entry workshops, encouraging diversity of teens, projects, and ideas, and providing teens with resources such as artist mentors, tools, and programming. Teens who regularly frequented the space and new teens consistently used equipment that was within eyesight or was visible through another teens engagement with it. The visibility and reach of tools in the studio impacts the ease and use of digital media equipment and thus knowledge of the different digital media skills that are available.

The instructional approach of the mentors is formed by teen interests and encourages openness. Young people come to ARTLAB+ and participate through multiple pathways including friends, interests, high school, or internship. In alignment with mentors style of teaching, the learning and assessments are made visible through the process of getting certifications. This process is ritualized through the ringing of the

bong, and getting a sticker on a teens ID card. For example, Denitra rings the bong after she gains a garage band certification and returns to Christina, her mentor, to give a celebratory high five before entering the recording studio for the first time.

Additionally, teen participation can be constrained due to the age range policy. For example, alumni are allowed to visit the studio after they have “aged out” but are given a time limit of five minutes to greet and interact with peers and mentors. Future research could examine the network of alumni and how to further support alumni after graduating from high school and participating in digital media studios. There is value in teens who spend years at ARTLAB+ creating work and then graduate or transition to a new location or simply age out in having a connection to current participants. The knowledge and experiences of alumni can be leveraged to contribute to the learning and growth of the teens and the programming in general. Staff can consider how to include alumni in decision making around programmatic structures, expanding partnerships, additional media, and so forth. Staff can also consider ways to further support alumni in their pursuits after ARTLAB+ in internships, college, work, and/or continued practice with digital media.



***Social and emotional learning.*** The design of the studio and structures of the programming encourage and facilitate openness in sharing and exchanging information and ideas. The studio is compact and consists of one large room with a recording studio in the back and a storage room beyond behind it. The studio and the storage room are the only spaces with doors.

ARTLAB+ staff creates a learning setting where participants feel a sense of belonging. Teens expressed building non-technical knowledge during their time at ARTLAB+. Researchers illustrate that important features of successful learning settings for African American students include a sense of safety, belonging, competence, and identification (Heath, 2004; Nasir, 2012). The social nature of learning at ARTLAB+ also moves teens to develop deeper and stronger emotional skills. Consider Beatrice who states “it took me a long time to learn how to love myself” and Denitra’s ability to navigate the obstacles and discouragement from her immediate family. In addition to technical capabilities, teens are gaining skills that will assist them throughout life. Future research could examine the values and bodies of knowledge that teens bring into digital media studio. This knowledge can be useful in understanding teen projects, trajectories, and in shaping workshops.

ARTLAB+ is a third space between home and school where young people can engage with their peers and build on their interests and passions through the pursuits of meaningful projects using digital media (Calabrese Barton et al., 2008; Papert, 1980). Researchers argue that third spaces support learners because they give youth authorship

in these settings (Calabrese Barton et al., 2008). In ARTLAB+ teens are not given specific goals or specific tasks, as is typical in many classroom activities. Instead teens choose and create their own goals and tasks, follow their curiosities, and develop their own projects. This kind of teaching and learning has roots in constructionism (Papert, 1980). As teens connect a project to an idea that they are passionate about, they will engage, and persist to work harder and longer than they would if it was a task that was given to them (Hetland et al., 2007). As Gabriel describes a teen interest driven project on zine making, he asserts: “It was also super cute and well made. They spent forever on it which was awesome” (Gabriel, Interview, 12/10/2016).

Researchers have studied how young people can and do expand their identities as they engage in practices that afford them more flexibility and agency in participation (Tan, Barton, Kang, O’Neil, 2013). I noticed this in the case of Jordan a teen participant that focused his attention on audio production. Jordan stated in the latter half of a first interview that he has a disability and is in “special ed” classes. He mentions that in school he is often grouped with other students with special needs. However, I observed Jordan working with teen participants of all levels of learning. When Jordan applied for a role in the production team and was not offered the role he wanted, but was given an opportunity to shadow, he expressed frustration. His response of “I don’t have enough experience, but how do you know, though?” can be thought of a way of challenging ARTLAB+ staff and the rationale in deciding who and who gets to participate fully in these authentic experiences. Learning designers and educators can consider how do we widen the scope

of what is possible to include teens with views and values of knowledge that are different from our own? How can educators and researchers widen the scope to evaluate how youth make visible their competencies in addition to our own evaluations. Digital badges, an indicator of accomplishment, are one approach to recognizing and valuing the learning that happens everywhere.

## **APPENDIX A**

### **IRB Approval Letter**

From: Karen Motsinger <[kmotsing@gmu.edu](mailto:kmotsing@gmu.edu)>

To: Kimberly Sheridan <[ksherida@gmu.edu](mailto:ksherida@gmu.edu)>

Please note that George Mason University IRB has taken the following action on IRBNet:

Project Title: [765249-1] Learning, Identity and Agency in Makerspaces

Principal Investigator: Kimberly Sheridan, PHD

Submission Type: New Project

Date Submitted: June 1, 2015

Action: APPROVED

Effective Date: October 28, 2015

Review Type: Expedited Review

Should you have any questions you may contact Karen Motsinger at  
[kmotsing@gmu.edu](mailto:kmotsing@gmu.edu).

Thank you,

The IRBNet Support Team

## **APPENDIX B**

### **Interview Protocol**

Case Study of ARTLAB+  
Grace Wingo

#### **Sample Interview protocol for Artlab+ Minor participants**

##### **Introductory Script**

Hello and thank you for agreeing to participate in this interview study. I am interested in how people learn in ARTLAB+.

This research will contribute to the national conversation regarding makers, makerspaces and artlabs and how museums can incorporate digital media and learning into their exhibits. This interview will take about 45 minutes to an hour and will be audio recorded.

I will be asking you questions about your creations and how you became interested in ARTLAB+. I will ask about people that have influenced you such as friends and family, and experiences in and out of school. I want to hear about all the people, things and experiences that influenced you regarding your designs and creations. I'll also ask questions about your design process and how you come up with ideas and work with digital media.

If you don't want to answer a question I ask, just say so and we can skip it. You can also quit the interview process entirely at any time if you wish. Your participation is completely voluntary.

Do you have any questions before we begin?

----

Participants will also be asked ahead of time to bring a sample project they are pleased with and a sample project that frustrated them or they were not satisfied with. When projects are publicly available either face to face or virtually, we will refer to these. If they weren't able to bring in work samples, we ask them to recall projects.

### ARTLAB+

1. Take a few minutes and briefly introduce yourself to me. -
2. What words would you use to describe yourself in ARTLAB+?
3. What does it feel like being here at ARTLAB+? Walk me through a typical day...
4. Give me five words to describe this space. To describe ARTLAB+.
5. How is ARTLAB+ different or the same to other after school places where people make music or work on computers?
6. Do you ever get frustrated in this space or anything that is hard or difficult?
7. Tell me about how your participation has changed since you started.  
Probes: Are there changes in... how you learn new skills? decide what to work on? process of working with others? share your work? take on roles—formal or informal—in ARTLAB+? Have there been shift in levels of participation or commitment since you have been here?

### Design/Projects

8. Walk me through the steps of what you are currently working on.
9. How did you initially get the idea to work on it?  
-Potential probes: What skills did you draw on? b. What was challenging about working on it?  
c. What would you do differently to make yourself satisfied? d. What was rewarding about working on it? f. What are you trying to convey with this project?
11. Tell me about a time you were working on a project that you were frustrated with or weren't pleased with.
12. Tell me about something you made that you are the most proud of.
13. How do other people in here help you with projects?  
Probes: In terms of planning and designing, did you get any help? What is the role of feedback and critique?
14. Where do you go to get more information on something? In order to become better at it. What resources do you draw upon?

15. Looking back on your experiences at ARTLAB+ what has been important to you about participating?

16. Is there anything else you'd like to share about your experiences at ARTLAB+?

17. How do you see the work you do at ARTLAB+ connecting to your future?

Possible topic probes: Jobs, hobbies, ways of thinking, media use in daily life

Thank you so much for taking the time engage in these questions with me!



## APPENDIX C

### Informed Assent Forms

#### ***Case Study of ARTLAB+*** **ASSENT FORM: (Children Aged 12-17)**

My name is Grace Wingo and I am a student in the College of Education and Human Development at George Mason University.

I want to talk to you about a research study I am doing. In our study, we want to learn more about how people learn, construct identities and utilize agency in out of school environments in what are called “makerspaces” or artlabs, which are studio environments where people make things. Your parents have already agreed that you may take part in the study, so feel free to talk with them about it before you decide whether you want to join the study.

#### **What will happen to me in the study?**

If you would like to participate in the study, you will be asked to consent to me observing your participation in makerspace activities; consent to me accessing the artifacts you generate through the normal course of your participation in artlab+ activities including drafts of work, final products, and directions created for future makers; engage in semi-structured interviews with me throughout the process. Interviews will last approximately 45 minutes per session and will require up to two sessions which will be 1.5 hours total.

#### **What are the risks?**

There are no foreseeable risks for participating in this research. However, you may experience minimal psychological discomfort as a result of your participation. If, during an interview, you do not wish to answer a question, you can always choose not to respond. I will make every effort to protect your personal information by keeping data I collect on secure servers

#### **What are the benefits?**

There are no direct benefits to you as a participant other than to further research in technology and learning in communities of practice.

#### **Will anyone know that I am in the study? (Confidentiality)**

Your confidentiality will be protected by the use of using a pseudonym in any written and published material. Furthermore, I will use codes when interviewing to protect your real name and any identifiable information. This study code will be kept locked and secure.

**What if I do not want to participate or decide later to withdraw?**

Being in this study is voluntary. You don't have to be in this study if you don't want to or you can stop being in the study at any time.

**Will I receive anything for being in the study?**

There is no direct compensation for participating in this study except for receiving free beverages and snacks.

**Who can I talk to about this study?**

If you have questions about the study or have any problems, please let me or your parents know, and they can get in touch with us.

If you have questions about the study or have any problems, you can talk to you parents, or call the PI at (410-499-8804). If you have questions about the study but want to talk to someone else who is not a part of the study, you can call the Office of Research Integrity & Assurance at George Mason University at 703-993-4121.

Your signature below means that you have read the above information about the study, have had a chance to ask questions to help you understand what you will do in this study, and you are willing to be in the study. Your signature also means that you have been told that you can change your mind later if you want to.

---

Child's Name (printed) and Signature

---

Date

## **Learning, Identity, and Agency in Makerspaces**

### **INFORMED CONSENT FORM**

#### **RESEARCH PROCEDURES**

This research is being conducted to understand how people learn in ARTLAB+. If you agree to participate, you will be asked to consent to me observing your participation in activities; consent to me accessing the artifacts you generate through the normal course of your participation in ARTLAB+ activities including drafts of work, final products, and directions created for future makers; engage in semi-structured interviews with me throughout the process. Interviews will last approximately 45 minutes per session and will require up to two sessions which will be 1.5 hours total.

This study will include makers and/or mentors from ARTLAB+.

Research activities will be conducted through the normal course of activity in the makerspace and, when appropriate, in a private room in or next to the makerspace facility.

Audio recordings will be made of interviews. Only the research team will have access to the audio recordings taken during research interviews. The recordings will be saved for the duration of our study before they are destroyed.

#### **RISKS**

There are no foreseeable risks for participating in this research. However, you may experience minimal psychological discomfort as a result of your participation. If, during an interview, you do not wish to answer a question, you can always choose not to respond. I will make every effort to protect your personal information by keeping data I collect on secure servers.

#### **BENEFITS**

There are no direct benefits to you as a participant other than to further research in technology and learning in communities of practice.

#### **CONFIDENTIALITY**

The data in this study will be confidential. While there may be publications as a result of this study, your real name will not be used. Only group characteristics will be published. I will use pseudonyms to protect your privacy and confidentiality. If you participate in this study, we would like to be able to quote you directly without using your name. If you agree to allow us to quote you in publications, please initial the statement at the bottom of this form

#### **PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

### **CONTACT**

This research is being conducted Wingo, College of Education and Human Development at George Mason University. She may be reached at 410-499-8804 questions or to report a research-related problem. Additionally, the faculty advisor for this study is Dr. Kimberly Sheridan, College of Education and Human Development at GMU. She may be reached at 703-993-9181. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

### **CONSENT**

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study.

---

Name

---

Date of Signature

\_\_\_\_\_ I give my permission to be quoted directly in publications without using my name.

## **Learning, Identity, and Agency in Makerspaces**

### **INFORMED CONSENT FORM RESEARCH PROCEDURES**

Your child is invited to participate in a research study about how people learn outside a school environment in ARTLAB+ where people are involved in creating digital media products.

The purpose of this research is to understand how people learn in ARTLAB+. Your child has been asked to participate because they are a participant and/or a mentor at ARTLAB+. If your child agrees to participate, they will be asked to consent to me observing their participation in makerspace activities; consent to me accessing the artifacts they generate through the normal course of their participation in ARTLAB+ activities including drafts of work, final products, and directions created for future makers; engage in semi-structured interviews with me throughout the process. Interviews will last approximately 45 minutes per session and will require up to two sessions which will be 1.5 hours total.

This study will include makers and/or mentors from ARTLAB+.

Research activities will be conducted through the normal course of activity in the makerspace and, when appropriate, in a private room in or next to the makerspace facility.

Audio recordings will be made of interviews. Only the research team will have access to the audio recordings taken during research interviews. The recordings will be saved for the duration of our study before they are destroyed.

### **RISKS**

There are no foreseeable risks for participating in this research. However, your child may experience minimal psychological discomfort as a result of your participation. If, during an interview, your child does not wish to answer a question, they can always choose not to respond. I will make every effort to protect your personal information by keeping data I collect on secure servers.

### **BENEFITS**

There are no direct benefits to your child as a participant other than to further research in technology and learning in communities of practice.

### **CONFIDENTIALITY**

The data in this study will be confidential. While there may be publications as a result of this study, your child's real name will not be used. Only group characteristics will be published. I will use pseudonyms to protect your privacy and confidentiality. If your child participate in this study, we would like to be able to quote them directly without using your name. If they agree to allow us to quote them in publications, please initial the

statement at the bottom of this form

**PARTICIPATION**

Your child's participation is voluntary, and you may withdraw from the study at any time and for any reason. If your child's decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

**CONTACT**

This research is being conducted by Grace Wingo, College of Education and Human Development at George Mason University. She may be reached at 410-499-8804 questions or to report a research-related problem. Additionally, the faculty advisor for this study is Dr. Kimberly Sheridan, College of Education and Human Development at GMU. She may be reached at 703-993-9181. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

**CONSENT**

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date of Signature

\_\_\_\_\_ I give my permission to be quoted directly in publications without using my name.

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Grace Wingo graduated received her Bachelor of Arts from the University of Maryland, College Park in 2008. She was employed as an artist mentor at ARTLAB+ from January 2016 through January 2017. She received her Master of Science in Educational Psychology from George Mason University in 2017.