

ABSTRACT

Title of Document: VIRTUAL YOUTH SPACES IN PUBLIC LIBRARIES: DEVELOPING AN EVALUATIVE FRAMEWORK

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This study explores the successes and challenges of the virtual space component of the 21st Century Learning Labs in Libraries and Museums funded by the Institute for Museum and Library Services (IMLS) and the MacArthur Foundation. This study synthesizes the literature on informal learning for youth that motivated these learning labs and analyzes existing evaluative approaches to public library initiatives. The author adopts a grounded theory approach and conducts semi-structured interviews with learning lab staff from four sites that received the 21st Century Learning Labs in Libraries and Museums Grant. Key concepts from the literature guide the analysis of the interviews to produce a foundational evaluative framework that can be used by public library staff to design and evaluate goals for their virtual learning lab. This framework considers both the overall mission of virtual learning labs and contextual factors that influence the library.

VIRTUAL YOUTH SPACES IN PUBLIC LIBRARIES: DEVELOPING AN
EVALUATIVE FRAMEWORK

By

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Chapter 1: Introduction

1.1 Purpose of Study

Although public libraries provide fertile ground for implementing evidence-based youth programs, there is a lack of follow-up surrounding the iterative design and evaluation of these programs. The Learning Labs in Libraries and Museums Grant, funded by the MacArthur Foundation and the Institute of Museum and Library Services (IMLS), promotes the development of research-motivated library programming in youth services through the establishment of learning labs. In this study the term “youth” refers to the middle and high school age people the learning lab grants are intended to serve (Institute of Library and Museum Services, n.d.). Although some of the sites focus exclusively on those in high school, this study addresses both middle and high school youth as the target population of learning lab efforts. The labs are designed to provide physical and virtual space for youth from diverse backgrounds to build new media literacy skills by engaging in the “Hanging Out, Messing Around, Geeking Out” genres of participation developed through the Digital Media and Learning research (Ito et al., 2009). By hanging out, messing around, and geeking out with new media, youth interact with their peers and pursue their interest as part of a participatory culture; this participatory culture allows youth to develop social relationships while contributing to a learning environment (Ito et al., 2009; Jenkins et al., 2006). Although the sites are based on recent research, the planning process and outcomes of the learning labs, particularly in the virtual space, have not been evaluated in a manner that provides an actionable framework that

libraries, museums, and other learning institutions can adopt to launch their own learning lab.

The premiere learning lab site, “YOUmedia,” was formed through a partnership of Chicago Public Libraries (CPL) and the Digital Youth Network (DYN) with funding from the MacArthur Foundation and the Pearson Foundation. The Year 1 findings from YOUmedia cited youth and staff engagement in the online space as a challenge, but did not document the weaknesses in the program, the approach used, or the steps taken by YOUmedia to improve the virtual space (Austin, Ehrlich, Puckett, & Singleton, 2011, p. 39). Using YOUmedia as the model for learning labs, eight libraries and four museums were awarded grants in 2011 to create similar learning labs. In November 2012, after the data collection phase of this research, five museums and seven libraries were selected in the second round of grants awarded. . This study examines the approaches of learning lab grant recipients in designing the virtual space component of a learning lab based on Ito et al.’s (2009) principles of “hanging out, messing around, and geeking out” and other research on informal learning spaces.

The findings from this exploratory study are intended to provide public libraries with a practical guide for planning a youth program based on the principles of hanging out, messing around, and geeking out. The author examines key considerations in engineering a virtual learning lab space from the conceptual phase using an evaluative approach. The current research will provide the foundational levels of an evaluative framework that focus on designing goals that support the learning lab mission, consider the contextual elements that influence planning, and

can be evaluated. The two major elements of the framework are a needs assessment and goal formation guide. The needs assessment provides a means of identifying organization-specific contextual factors that influence learning lab planning. Additionally, the needs assessment serves to identify areas of strength or weakness in existing efforts to create virtual spaces for informal learning. The goal formation element of the evaluative framework guides organizations to compose goals that draw from the learning lab mission and the needs assessment findings. This framework is therefore a tool that can be used by organizations that are in different stages of virtual space development as a means of planning first steps or modifying goals to better align with the learning lab mission.

The author examines the experiences, perceptions, and opinions of learning lab staff through semi-structured interviews. In addition to these qualitative insights, research on new media literacy and youth engagement as well as evaluation models used within and outside the public library sphere will collectively inform the development of the evaluative framework. This foundational evaluative framework can then be used by public library staff to design and evaluate goals for implementation of a virtual space for informal learning opportunities.

1.2 Research Questions

This study will address the following research questions:

1. What is the mission of a virtual youth space in public library learning labs?
2. How do learning labs differ in their approaches to achieving the mission of learning lab virtual spaces?

3. What are the essential components of an evaluative framework that supports the learning lab in achieving its overall mission?
4. How can libraries, despite organizational and contextual differences, use the foundational evaluative framework provided to successfully plan virtual learning labs?

The study aims to answer these four research questions through an analysis of the planning process and current practices of learning labs with respect to the virtual space. This approach also acknowledges that organizations will be approaching planning tasks with different organizational histories and influential contextual factors. Literature on the informal learning spaces helps to conceptualize the virtual space that learning labs are striving to create and the different ways youth can participate in emergent communities. Research on assessment methods and approaches to evaluation will then be used to construct the foundational levels of an evaluative framework. The framework will be comprised of a needs assessment and goal formation guide. These framework components will be constructed based on analysis of the interview data. The analysis will use excerpts from staff interviews to illustrate how sites' experiences may have been influenced if a structured evaluative approach was used as well as examples of goals that can be developed from the needs assessment. The study will answer the research questions and serve as the foundation for further evaluation of informal virtual learning spaces.

1.3 Significance of Study

As social media becomes more widely accessible to youth regardless of socioeconomic status, race, or ethnicity (Ahn, 2011), it is increasingly important for

learning institutions to provide virtual space that engages youth and promotes learning and exploration. With recent research promoting the use of online engagement as a means of creating informal learning cultures, libraries, museums, and afterschool programs are looked to as sites that can cultivate these communities (Ito et al., 2009, p. 364). There is, however, insufficient guidance in how to translate principles of new media literacy and learning communities into practical and sustainable programming in libraries.

This study represents one of the first exploratory studies to create an evaluative approach that assesses virtual spaces for new media learning in public libraries. The Year 1 Findings from Chicago YOUmedia discuss a need for further evaluation of youth and staff engagement in the virtual space (Austin et al., 2011). Apart from Austin et al.'s (2011) report highlighting the limited understanding of the learning lab virtual space, there is little literature on digital media and learning programs in libraries and how an associated virtual space can be developed and managed. Regardless, the Young Adult Library Services Association (YALSA) (2012) has revised their guidelines for serving youth to include provision of virtual spaces. Among other standards, the guidelines state that the virtual space in library teen services should:

- “7.1 Support and use of social as a vital means of communication
- 7.2 Allow all teens to share their work, receive feedback, and build community...
- 7.4 Support collaboration with adults and peers...
- 7.6 Be interactive” (YALSA, 2012, p. 8).

In addition to this focus on interactive virtual space for teens, the learning lab initiative also corresponds with several of the Public Library Service Responses (Garcia & Nelson, 2007). Through use of social media, youth are encouraged to

connect to an online world of peers, professionals, and new communities. Virtual space also provides numerous types of interaction that stimulate imagination by providing opportunities to explore, play, and collaborate. Through knowing the youth community and meeting youth where they are, informal virtual spaces can also provide a comfortable place with minimal barriers to membership in a safe learning community.

Despite these guidelines for providing virtual spaces in libraries, research-based direction for youth services on how to actually create such spaces is sparse. This study will provide an analysis of the recent and ongoing efforts to create learning lab virtual spaces that focus on developing new media literacy skills among libraries' youth communities. The resulting evaluative framework will build upon the concepts presented in research on informal learning with new media by providing public library practitioners with a tool that prompts the consideration of elements that make up a virtual space construct and the impact goal formation can have on the overall mission of the virtual space. The research will therefore provide a bridge between the new media literature focused on observed behavior (Ito et al, 2009), the culture that promotes such behavior (Jenkins, 2006), and the experiences of those working to create the structure around which such environments and interactions can take place.

1.4 Limitations

Although this study seeks to survey the underexplored topic of evaluation in public library virtual learning lab spaces, the research is restricted by conceptual, programmatic, and methodological elements.

Out of the thirteen learning lab programs (including Chicago YOUmedia) that existed at the start of the study, four sites were available to participate and these sites were in various stages of implementing their virtual space. The small amount of data made it possible to carry out an in-depth investigation of each learning lab, but this selection does not portray a complete picture of virtual learning lab efforts and is even further from representing the range of library system that may be interested in implementing such spaces.

Furthermore, this research provides the first step in building an evaluative framework for learning lab virtual spaces, but more research is required to further develop a comprehensive framework. The current study provides guidance on formulating goals that are supported by the informal learning literature in order to set the agenda for further levels of evaluation that can comprise a more complete framework.

There are a limited numbers of programs to which the library learning lab approach can be compared and the learning lab structure itself is relatively new. Though Chicago YOUmedia shows early success in some areas, the study of virtual spaces for youth programming may be restricted by the learning lab's explicit focus on social media as an informal learning tool. The current study is approaching the evaluation of virtual library space for youth based on the criteria of how learning labs create a broader range of opportunities for informal learning. This framework does therefore not address the evaluation of virtual space as a tool for creating a formal learning structure or facilitating promotional efforts. This study omits discussion on the best use of social media for library youth services and conversely aims to clarify

why an informal learning environment online is important, how it is different from other uses of social media, and how learning labs might develop goals for such programs.

Chapter 2: Literature Review

This study focuses on the critical development steps required to successfully implement new media literacy efforts into library youth programming through an informal online learning space. This chapter will first address the body of research on new media literacy and informal learning followed by a discussion of social media and virtual space in learning environments. Finally, evaluation literature will be reviewed and key elements of evaluative tools will be identified.

2.1 New Media and Youth

This section will first discuss the emergence of new media and digital literacies. It is now widely recognized in library and information science and education literature that 21st century literacy is no longer confined to traditional reading and writing skills (Barron et al., 2010; Jenkins, Purushotma, Clinton, Weigel, & Robinson, 2006; Clark & Visser, 2011; Ito et al., 2009). New media literacy refers to a fusion of traditional reading and writing concepts as well as technological, social, and cultural competencies (Clark and Visser, 2011, p. 28). This study will use the terms “new media” and “new media literacy” as opposed to “digital literacy” in order to be consistent with pertinent literature. New media literacy will refer to a proficiency in traditional and technological skills as well as social and cultural capacities critical to modern media engagement for both professional and recreational use (Ito et al., 2009; Jenkins et al., 2006).

With the evolving concept of new media literacies, recent research in the field of information science and education has been dedicated to exploring how such

literacies are developed and what efforts can be made to provide today's youth with the resources and knowledge to succeed in their personal and professional endeavors. This section will discuss the major findings of new media research including the culture of new media and the way users behave in these cultures through the genres of participation in new media.

2.1.1 Culture

Due to the constantly changing digital tools available and the importance of learning environment to acquiring these types of skills, media literacy literature focuses on the culture that fosters learning rather than skill-specific instruction. As new media literacies are found to be largely based on social interaction, researchers such as Jenkins et al. (2006) argue that they “should be seen as social skills, as ways of interacting within a larger community, and not simply an individualized skill to be used for personal expression” (p. 20). Jenkins et al. (2006) have identified “participatory culture” as the environment that promotes media literacy development and growth. Ito et al. (2009) also refer to a learning culture of active participation in a network that results in knowledge creation and distribution (p. 19). Regardless of the name, this culture is characterized by an environment that fosters learning through minimal barriers to expression and engagement, where members are encouraged to share, collaborate, and interact socially with other members (Jenkins et al., 2006, p. 3). It is this dynamic learning environment and culture that learning labs seek to emulate (Austin, 2011); this study therefore refers to the desired virtual environment as a virtual learning lab and virtual “space” or “environment” as opposed to a “tool” or other vocabulary that limits its scope.

Peer-based learning is one tenet of participatory culture that recognizes the influence of social factors on learning (Ito et al., 2009, p. 10). Although peer-based learning can occur in formal educational environments such as the classroom, learning environments that promote peer-based learning and a broader participatory culture have been found in social and recreational community involvement, including online groups (Ito et al., 2009). Participatory culture is described as taking several potential forms: (1) Affiliations refer to a network of social relations where membership is possible; (2) Opportunities for Expression enable participants to produce and publish material to communicate thoughts and ideas; (3) Collaborative Problem Solving contexts involve the use of teamwork to complete tasks and develop ideas or products; (4) Circulation indicates practices that influence the flow of media and information, such as blogging or podcasting (Jenkins et al., 2006, p.3). Although these forms of participation do not exclusively take place online, modern social media outlets provide the opportunity to engage in one or more of these activities. Jenkins et al. (2006) highlights the importance of participatory culture to youth development by indicating core literacies that can be cultivated through participation. Examples of core literacies include play, performance, simulation, appropriation, multitasking, distributed cognition, collective intelligence, judgment, transmedia navigation, networking, and negotiation (p. 4). These literacies are defined in the glossary.

Table 2.1 Core Literacy Table (All information is extracted from Jenkins (2006) article)

Core Literacy	Definition	In person	Online
Play	The capacity to experiment with one's surroundings as a form of problem-solving	Collecting baseball cards with friends	Playing video games with missions of solving mysteries and discovering new information
Performance	The ability to adopt alternative identities for the purpose of improvisation and discovery	Acting out as the characters in stories they have read	Creating avatars through profile features of a platform
Simulation	The ability to interpret and construct dynamic models of real-world processes	Participation in fantasy football leagues where those involve track statistics and engage in imaginary trades of players	Use of simulation games such as SimCity where players build cities and partake in imaginary transactions
Appropriation	The ability to meaningfully sample and remix media content	Jazz improvisation of familiar theme songs	Posting fan fiction in online fan forums
Multitasking	The ability to scan one's environment and shift focus as needed to salient details.	Listening to songs and lectures on an iPod to learn a foreign language while eating lunch or walking between classes.	Using twitter or blogs to have a class discussion while a lecture is going on in real time
Distributed Cognition	The ability to interact meaningfully with tools that expand mental capacities	Using pencil and paper to math exams in order to draw representations and record processes to better understand math concepts	GPS inspired tools where individuals on a tour can access a variety of media types that display historical photos and information related to the environment.
Collective Intelligence	The ability to pool knowledge and compare notes with others toward a common goal	Scientists using students to complete data collection for research.	Use of Wikipedia to document information about a specific topic, person, or event.
Judgment	The ability to evaluate the reliability and credibility of different information sources	Analyzing news stories as a class activity to compare validity and credibility	Digitally manipulating images from news stories to increase understanding of how such acts could lead to misinformation
Transmedia Navigation	The ability to follow the flow of stories and information across multiple modalities	Using songs, newspaper articles, and magazines to gather information about a music celebrity	Retelling classic fairytales through YouTube videos or podcasts
Networking	The ability to search for, synthesize, and disseminate information	Gathering information from advertisements, coupons, reviews, and peer recommendations when considering a large purchase.	Using online "Storefront services" to sell products and services to a wide audience
Negotiation	The ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.	Using debate activities to use a variety of information and perspectives to build support of a particular stance or opinion.	Discussion on Wikipedia articles regarding what type of information should be displayed to achieve a neutral but informative article.

Through the examples provided in table 2.1 one can see that these skills are not exclusive to digital media, but are very much a part of how web-based applications are commonly used personally and professionally. Still, as specific technologies are designed to teach certain skills, organizations must remain aware that “activities become widespread only if the culture also supports them, if they fill recurring needs” (Jenkins et al., 2006, p.8). This study will discuss the ways learning institutions seek to create informal learning environments.

2.1.2 Genres of Participation

In addition to the studies in section 2.1.1 showing that learning happens in informal learning environments where a participatory culture is present, this section will present research examining how youth behavior in participatory environments can lead to the development of critical media literacies. Ito et al. (2009) conducted a three year ethnographic study of youth who participated in new media environments. Their findings suggest that participation in new media is friendship and interest driven and often takes place in online communities that youth join voluntarily (Ito et al., 2009). The participation terms of “hanging out, messing around, and geeking out” have formed as ways to address varying levels of youth engagement in new media and new media communities (Horst, Stephenson, & Robinson, 2009).

It is important to visit not only the overall concepts of “Hanging out, Messing around, and Geeking out,” but also the features of each stage of participation that uniquely identify it. With respect to these genres of participation, there is not necessarily a linear progression from hanging out to messing around to geeking out. Lange and Ito (2009) clarify that the different genres present the options available for

media participation and production, and that “kids will often move fluidly back and forth between these genres” (p. 245). This section will now discuss each genre of participation and its implications for media production.

Hanging out is referred to as mainly friendship-driven activity that “moves fluidly between online and offline contact” (Horst et al., 2009, p. 38). Hanging out activities include passively checking online statuses and establishing a casual presence online through updating a status or sending general messages to others online (Horst et al., 2009, p. 39). These passive activities are more likely to engage a broader audience. More active hanging out includes engaging in more direct communication with peers through private messages, synchronous instant messaging, and cell phone calls and is more likely to be reserved for close friends or romantic partners (Ito et al., 2008, p.15). Hanging out activities can also vary based on the technology used. On YouTube, for example, navigating pages based on “most viewed” pages and related links makes video viewing social and an activity that youth engage in when hanging out together in person (Horst et al., 2009, p. 46). Similarly, Ito et al. (2008) describes hanging out in a virtual game space as important to players who are not physically together (p. 16), but also acknowledges that youth engage in hanging out in person while playing games (p. 20).

Messing around is the genre of participation that indicates a deeper user engagement with new media (Horst et al., 2009, p.54). This genre is broken into actions of “Looking Around,” where youth seek information on a topic, “Experimentation and Play” where youth practice engagement with media, and “Finding the Time, Finding the Place,” that pertains to the environment in which

youth engage (Horst et al., 2009, p. 54). Just as with hanging out, activities within the messing around genre can rely heavily on online or digital media tools, traditional media, or a combination of the two and are driven by social factors and youths' personal interests. In the often self-directed process of looking around, for example, information is often sought through web browsers in an exploratory style, as the Internet is a free, accessible way to retrieve information (Horst et al., 2009, p. 54). The descriptions of "Experimentation and Play" also are described in a media-focused manner, with examples such as finding innovative ways to save music or create ringtones (Horst et al., 2009, p. 62). It is possible, however, to envision non-technological examples of messing around, such as creating song mash-ups through experimentation and playing in the absence of social or digital media. Social media is a common means of further exploration of such media. It is likely that youth will turn to the Internet in order to edit their work, share, or collaborate with peers. In any case, digital and traditional forms of production and social interaction will frequently overlap in these participation genres. Finally, the finding time and space phase of messing around provides a context for why new media exploration happens in informal learning settings. Though schools provide space for learning, unstructured time to experiment and mess around with media is often not available in online or offline formats (Horst et al., 2009, p. 63). Internet access at home is also cited as a barrier to messing around (Horst et al. 2009, p. 67), but recent studies find youth without Internet or computer access at home are in fact more likely than youth with at-home access to be members of social media communities (Ahn, 2011, p. 158; Lenhart, Purcell, Smith & Zickuhr, 2010). Though Ahn's (2011) study does not focus

on why this phenomenon occurs, it marks a change from the traditional outlook on access. Ahn's (2011) findings support efforts to create virtual spaces that youth from diverse backgrounds have access to.

Finally, the geeking out genre of participation indicates "an intense commitment or engagement with media or technology" and is driven strongly by the individual's interests (Horst et al., 2009, p. 65). As with the other genres, however, there are also social behaviors associated with this type of engagement. Individuals who are immersed in the "geeking out" genre are likely to spend a lot of time with the given media, have special knowledge and status in the media community, and be willing to break or bend the rules or constructs of a community or technology (Horst et al., 2009, p. 66).

This literature review commits considerable discussion to the small collection of literature on these genres of participation, as they are the central tenets of the 21st Century learning lab programs. It is therefore important for library and museum staff to be able to identify and articulate these engagement principles.

Table 2.2: Homago Cheat Sheet

	General	Social Behavior	In-person activities (examples)	Virtual activities (examples)
Hanging out	Friendship driven	Passive; casual presence, general audience	Spending time together, informal talking and listening to music.	Checking Facebook statuses, updating favorite music on profile, scanning others' interests. Casual conversations on Facebook chat
Messing around	Interest Driven. Involves looking around, experimentation and play, finding time and space	Searching for information informally	Searching for musical instruments and resources in school in order to start a band. Networking with peers to find others who like to make music by asking friends and asking friends to ask their friends.	Playing with instruments found at a friend's house. Researching how to start a band online, looking up where to rent instruments and finding space to play. Play around with how to record music and load media to YouTube. Networking through YouTube to find suggestions for videos s/he might like.
Geeking Out	Interest driven	Expert knowledge and status in community; willing to break rules	Creating an organization of peers dedicated to music production. Providing mentorship (judgment), resources, and materials to help the group.	Finding ways to use freeware to edit, remix (appropriation), and produce original music videos. Become a frequent commenter on an online music community and give critical feedback (judgment) on others' work. Help improve the site by designing a better system for giving feedback.

Table 2.2 adopts the language used by Horst et al. (2009) to describe what each form of participation entails and provides an example of how one might move fluidly between the three genres of participation. The bolded words represent areas where Jenkin's (2006) core literacies could be acquired based on his definitions (provided in the glossary). Recognizing the three levels of engagement is critical to evaluating how virtual spaces achieve their goal of creating opportunities for informal learning.

Although the author will not analyze choice in tools for creating a virtual space, various social media platforms will be referred to in the discussion of how library sites plan to create an interactive virtual space. All media can be classified as social to some extent, but social media is defined as "the set of new media that enable [sic] social interaction between participants, often through the sharing of media" (Ito et al., 2009, p. 28). In informal learning environments, social media extends opportunities for developing new media literacies (Ito et al., 2009). In order to understand the history of social media and youth programming, the next section will review the virtual space component of YOUmedia and selected examples of social media practices within and outside of public libraries.

2.2 Social Media in Public Libraries

This section will discuss the Chicago YOUmedia learning lab virtual space, iRemix, as well as social media practices in other public library youth programming. Although one program outside the library will be presented to demonstrate the inclusion of Jenkin's (2006) core literacies into the planning of a virtual community, this literature review will deliberately omit an extensive review of online virtual communities. The author decided to take this approach in order to focus on

developing a virtual space that stems from the mission of the learning lab and the library. An extended discussion on the potential for further research that compares the participatory culture of virtual learning labs to other social media spaces is available in Section 5.3.

2.2.1 YOUmedia and iRemix

The findings from the pools of research on the culture and communities associated with new media learning have motivated efforts to infuse out of school programs with opportunities for hanging out, messing around, and geeking out with technology. Free and public spaces in particular represent critical areas for youth who may lack access to technical and social resources for playing and experimenting with technology and the new media culture of play, collaboration, and creation (Horst et al., 2009, p. 63). Therefore in recent decades, libraries, afterschool programs, and museums have been targeted as potential sites for creating informal learning spaces (Lange & Ito, 2009, p. 364; Subramaniam et al., 2012; Russo, Watkins, & Groundwater-Smith, 2009). Chicago YOUmedia represents one space that was explicitly designed based on the research of Ito et al. (2009) and Jenkins (2006) (Austin et al., 2011). Chicago YOUmedia, which launched in 2009, was the subject of much praise and IMLS and MacArthur Foundation decided to fund 24 additional learning labs in libraries and museums. These new sites are intended to replicate Chicago YOUmedia in some manner, yet make unique contributions to the young people in the community.

Although the new learning labs are in the planning stages of their programming, Chicago YOUmedia is in its fourth year of existence and has released one report after

its first year that discusses the successes and challenges of the program as a whole (Austin et al., 2011). Austin et al. (2011) refers to YOUmedia's plans to collect login statistics for iRemix in the future, shifting away from its exclusive reliance on observations of youth behavior and interviews with both youth and staff to illustrate the role of the virtual space in the learning lab program (p. 14). It is first important to note that Austin et al. (2011) discusses the hanging out, messing around, geeking out continuum as it is manifested in the physical space of YOUmedia, but the virtual space is described without reference to opportunities for the three engagement levels (p. 11). The section on the physical hanging out space does say that youth are able to access Facebook and use phones, but these media tools are separate from the iRemix virtual space intended to complement the physical YOUmedia area. Austin et al.

(2011) says of the virtual space:

“The online space was meant to extend what occurred in the physical space and to provide other forms of motivation for students to collaborate on projects, present work publicly, and critique digital media” (p. 14).

In addition to a lack of detail about hanging out, messing around, or geeking out in the virtual space, the passage also did not specify what these extensions are, how students will be motivated, and the capability of the online space to achieve goals of collaboration, public presentation, and critiquing across various forms of media. This sections states that the purpose of the virtual space is to motivate students to collaborate, publish, and critique each other but does not discuss how such elements can be identified and evaluated. Furthermore, the report identified a distinct weakness in the goals of both the physical and virtual learning lab spaces and that program leadership expressed goals that “were broad, learning-based ideas” (Austin et al.,

2011, p. 16). Core literacies themselves can be seen as learning-based ideas, but in order to determine the success of an initiative, goal must be specific and measurable in order to serve as a foundation for evaluation. YOUmedia demonstrates a need for specific virtual space goals that can be evaluated in order to the measure success in achieving a participatory culture. The challenges section of Austin et al.'s (2011) report targets youth engagement in the online space as a key challenge in the first year of the program. Austin et al. (2011) cites a lack of youth interest in participating in iRemix. Even youth who posted their work on iRemix were not engaging in critiquing other youth's work (p. 39). Staff members also did not actively use iRemix as intended either (Austin et al., 2011, p. 40). Without specific and measurable goals developed from the learning lab mission, it is difficult to evaluate where exactly breakdowns occur that prevent iRemix from being an active site of participatory culture.

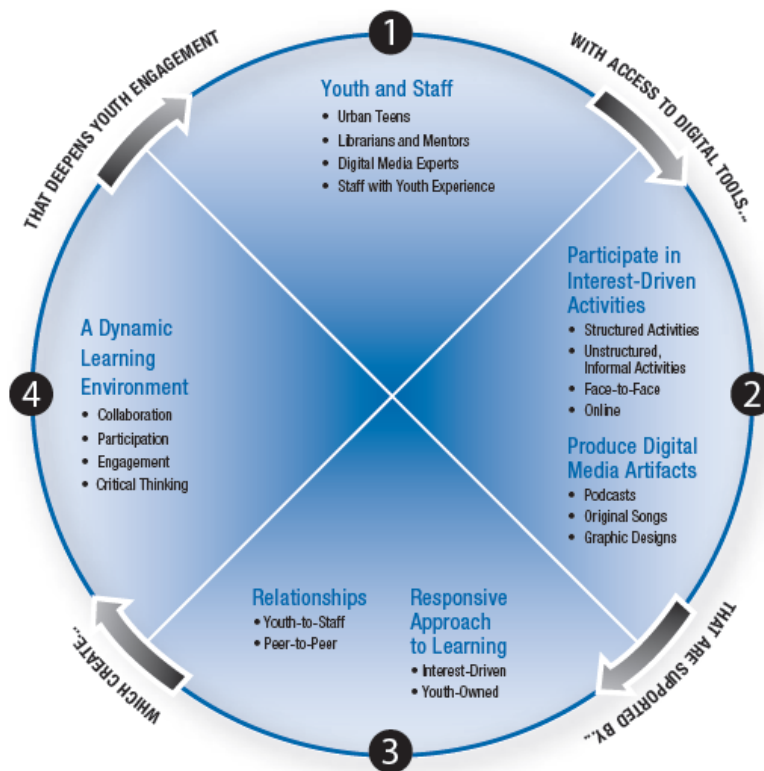


Figure 2.1: YOUmedia Observed Model from Austin (2011) p. 16

Although there is a lack of well-defined goals associated with YOUmedia programming, Austin et al.'s (2011) study did make significant progress in creating a conceptual presentation of the learning lab through the YOUmedia "Observed Model" (See figure 2.1). The components of the model can be used to identify parts of the lab that can be evaluated.

As is consistent with literature from Jenkins et al. (2006) and Ito et al. (2009), the model focuses on the development of community and cultural components such as a learning environment, relationships, and programming that is fueled by youth interest and social interaction. One part of the informal literature that is left out, however, is the friendship-driven motivation for engagement that is discussed as fueling hanging out, messing around, and geeking out (Ito, 2009). Although the components of the YOUmedia Observed Model are consistent with the informal learning literature, Austin (2011) does not discuss how the components of learning labs can be evaluated to demonstrate its level of success. If achievement of goals indicates a successful virtual learning lab, appropriate goals must first be identified. The evaluative framework presented in this study will discuss the use of goals to evaluate the learning lab constructs identified in the YOUmedia Observed Model.

Despite a lack of virtual learning lab evaluation, Austin's (2011) conceptual analysis of YOUmedia provides a starting point for developing evaluative tools. This review will go on to discuss some of the efforts other public libraries have made to integrate social media into programming for youth as well as the library as a whole. However, among youth programming and media literacy efforts "what makes YOUmedia unique is the scale and scope of its efforts to recreate the library as a

center for digital media and learning.” (Tripp, 2011, p. 333). Though other libraries’ use of social media may not be in pursuit of “recreating” the library in the same manner of YOUmedia, their experiences can still be used to provide ideas for innovation with new media in the public library context. The following section presents examples of libraries that use virtual youth space and a youth program that incorporates Jenkin’s (2006) core literacies with an informal virtual space. The discussion will omit extensive review of other virtual spaces for youth in order to focus on the participatory culture aspect of informal virtual spaces and the contextual environment of public libraries.

2.2.2 Youth Programming and Virtual Space

Most of the literature on social media written for library professionals is focused on an overview of various social media tools and ideas for how they could be used in library services. Examples include Sauer’s (2010) “Blogging and RSS: A Librarian’s Guide,” and Jones’ and Farrington’s (2012) “Learning from Libraries That Use WordPress.” Though these materials provide a helpful introduction to the world of social media, they do not discuss the potential for social media to be used as space for learning and community interaction, but rather as a publicity and communication tool.

There are, however, some examples of pertinent research-based literature on youth programming in public libraries with a virtual component. First, Phipps’ (2010) report of two sites from the IMLS-funded Media MashUp initiative provides an example of another program with the goal of fostering new media literacy skills. As opposed to the learning lab structure of creating physical and virtual spaces that contain a variety of programming, the Media MashUp initiative was designed to

create computer-based programs for youth in order to promote 21st century literacy skills (Phipps, 2010). Although the scope of programming between the two initiatives differs, Media MashUp sites also introduce in-person programming where youth are given the resources to explore technology without a formal classroom or workshop structure. The programs used the external tool, Scratch, that includes freely-downloadable software and a social media space designed to teach programming skills. Phipps' (2010) report includes observations from the libraries' programs that reflected youth interest, but both libraries experienced difficulty due to lack of resources. Both programs focused on youth using the downloaded software for learning programming skills. Virtual engagement was introduced at the end of one of the library's sessions when the librarian encouraged the youth to share their work on the social media part of Scratch. The other program occurred outside of the library at a location without Internet, so the librarians told the kids about the sharing capabilities if they wanted to access the site from home or the library (Phipps, 2010). In both instances, the library program provided time and space for kids to informally explore technology and informed the participants of the online Scratch community. The programs could have taken a step further to interact with the youth virtually, create a relationship between the Scratch community and library community, and introduce youth to the participatory culture evident in Scratch (Peppler & Kafai, 2007). The Media Mashup program demonstrates how libraries can promote new media learning without a virtual space. Opportunities for new media learning are limited, though youth can practice programming skills on the Scratch software and can hang out and mess around with their friends during in-person programming.

Clearly, these learning opportunities are limited to the time, space, and people involved in each program session.

Vancouver Public Libraries (VPL) also sought to create a virtual library space that appealed to teens, but their effort was fueled by a goal to communicate with youth rather than promote learning (Cahill, 2011). The library surveyed youth and found that they wanted their own social media space in the form of a teen specific Facebook page, which the library then created. In order to measure the various social media efforts aimed toward communicating with library patrons, VPL collected formal metrics. Examples of these metrics for Facebook included tracking total visits to the page, total comments, number of fans, and number of “active” users who had visited the site within the past month (Cahill, 2011, p. 268). Although such a use of metrics may primarily help to gauge the success of promotional and outreach efforts, they also led to findings regarding patron behavior in social media sites. When comparing overall patron use of Facebook and Twitter, for example, patrons were more likely to engage in dialogue through Twitter, but were less likely to do more than read the content on the library’s Facebook page despite the capability of the platform to like, respond, and share information (Cahill, 2011, p. 268). Measurement practices such as tracking frequency and quality of social media interaction can therefore lead to findings on participant engagement in various uses of social media, which could be applied to programming such as learning labs.

Finally, programming outside of the library that targets the goals of informal learning environments online can also be used to understand the history of these spaces. The Sci-dentity project is a study that aims to promote new media literacies

among middle school youth through an in-person afterschool creative writing program that uses a closed social media network as its virtual space (Subramaniam, Ahn, Waugh, & Druin, 2012). The informal virtual space provides opportunities for core literacy skill development promoted by the program: Students can *play* through imaginative story creation they can post to the blog, *perform* through building their characters' identities in stories, virtual space profiles, and avatars, and practice *appropriation* through their ability to critique and remix each other's work (Subramaniam, et al., 2012). Although the foundation of the program reflects a level of formality, the virtual space provides opportunities for social interaction. Although libraries may likely be targeting a larger population of youth and will have different organizational structure and contextual constraints, Sci-Dentity can be used as an example of observing media literacy in informal virtual space. Specific evaluative mechanisms are not discussed in the Sci-Dentity report. Sci-Dentity represents a virtual space for youth created to augment the after-school activities conducted in the school library, and is included in this review due to its shared commitment to pursuing Jenkins' (2006) core media literacies for youth and Ito's (2009) research on virtual youth communities and learning.

As seen in these three snapshots, efforts to build virtual spaces for youth can provide valuable information, but there is not cohesive literature bridging findings between library programming for media literacy, social media efforts in libraries, and other attempts to create informal learning communities. By providing an evaluative framework for learning labs, the current study will provide a means of evaluating diverse efforts to create informal learning environments.

2.3 Evaluative Frameworks

Evaluative frameworks are a cross-disciplinary tool for conceptualizing and measuring programs, structures, procedures, and services. The current paper will provide only the foundational levels of a framework specific to assessing needs and developing goals for virtual informal learning spaces. Various approaches to evaluation were considered in the development of the provided foundational framework and influence the framework structure.

This study uses a formative approach to build a framework as learning lab virtual spaces are in their developmental phases (Fuhr et al., 2007, p. 36; Bond, 1997, p. 10). Although the Chicago YOUmedia virtual space has now existed for over three years, the lack of data makes a summative approach to evaluation problematic, as a summative approach relies on performance measures to evaluate a fully-developed program (Fuhr et al., 2007, p. 36).

The literature reviewed in the field of education and library science generally utilize user centered program evaluation (Huang, 2001; Bond, 1997; Woodland, 2008), while research on virtual tool evaluation more often focuses on a combination of user-centered and system-centered evaluation (Saracevic & Covi, 2000; Fuhr et al, 2007). System-centered evaluation includes the structural engineering of the technology, the process elements included, and the informational content (Saracevic & Covi, 2000). Interface is another level of evaluation that is used with interactive technology and like the engineering, process, and content levels of evaluation, is not very applicable to traditional library program evaluation. When discussing the potential for digital library assessment, Bertot (2004) describes four evaluation

techniques that have been used in libraries that can span both program and system evaluation: Output Assessment, Performance Measures, Service Quality, and Outcomes Assessment. Outputs assessment is used to evaluate resources and collect statistics for use of resources, services, and programs. A performance measure approach applies to the usability, availability, and efficiency of resources and services and programs. Service quality measures user satisfaction with services and staff; and outcome assessment is used to determine the effect of programs on patrons (Bertot, 2004). Each of these evaluation strategies can be used to examine physical and digital libraries, but virtual learning labs represent a space where roles and structures are yet to be well-defined. While these approaches may still be used to an extent in evaluating virtual learning labs, there are some core differences between learning labs and libraries as a whole which suggest the need for a modified evaluation approach.

Though learning lab virtual spaces could certainly be examined through a holistic library evaluation supported by Nicholson (2004), it is also important to evaluate programs that may adopt goals that do not necessarily apply to the library at large. Early work on digital library evaluative frameworks sought to answer core questions of “What should we evaluate? For what purpose do we evaluate? Who should evaluate? At what level do we evaluate? Upon what criteria do we evaluate?” by focusing on construct, context, and criteria for evaluation (Saracevic and Covi, 2000, p. 6). Similarly, learning lab virtual spaces can benefit from clarification regarding expected goals, functions, and ultimately, potential grounds for evaluation. Learning labs and their virtual spaces are mainly concerned with creating a participatory culture through the library; this is an effort that is not commonly adopted by library

services as a whole. As creating participatory culture is a new effort for libraries, an evaluative approach specific to the structure and culture of an informal learning space is helpful to understanding the effect of such goals on library decisions and considerations. Elements of a participatory culture, such as providing means for participants to become informal mentors (Jenkins, 2006, p. 3), for example, is not a goal of traditional library programs. In order to develop a framework for evaluating such goals, libraries need to first understand how to formulate goals specific to virtual learning labs and how contextual elements of the library will influence decisions related to these goals.

Program evaluation literature such as Bond's (1997) research on evaluations for Community-Based Organizations (CBOs), specifically including afterschool programs, focuses on framing goals within a program wide context that stems from the organization's mission. Though Bond (1997) does state the need for determining baselines, she also makes it clear that the resources presented are to be used to evaluate a program and not the staff who manage it or the participants it serves (p. 1). In a social media environment defined by user-created content and a culture of community interactions, membership roles and user behavior are critical to achieving a participatory culture. Omitting an examination of adult and youth membership and behavior from evaluation prevents a framework from addressing the elements that contribute to a participatory learning environment.

Huang's (2001) evaluative framework for afterschool programs also focuses on the program but discusses the need to consider the user population, such as student demographics (51). Learning lab virtual spaces are similar to afterschool programs in

the sense that there is a program mission that will play a role in defining goals and that demographics of those served may impact evaluation decisions.

Like digital libraries, learning lab virtual spaces have a need for an approach that can evaluate a structure in the context of the user, the program, and the system. The analysis in Chapter 4 will provide examples of how goals can be formed in the user context. User centered evaluation poses potential for social, individual, institutional, and interface contexts (Saracevic and Covi, 2000, p. 8). Based on the content of the interviews collected in the current study, the author will examine the social, individual, and interface contexts. Interface will be excluded due to its focus on tools that is beyond the scope of the current study. The study will focus on needs assessment and goal formation levels of evaluation as a means of identifying necessary considerations for planning a successful virtual learning lab. Developing goals based on the overall mission of learning labs will help to develop a framework where new and existing assessment approaches can be applied to virtual learning labs.

This study will first discuss the virtual space mission as a basis for the scope of the evaluation (Bond, 1997, p. 5). Next the potential constructs and criteria for evaluation of the space will be analyzed (Saracevic & Covi, 2000). Saracevic and Covi's (2000) user centered contexts for evaluation will then be adapted in a discussion of the types of goals that can be generated in a user centered context. The proposed goals will be discussed based on how existing assessment approaches could be applied (Bertot, 2004) as well as demonstrated need for new assessment approaches. A more thorough discussion of the structure of this framework and how it was constructed will be provided in section 3.4.

Finally, it is important that the tools presented in this study will provide libraries with the structure needed to formulate goals that fit the learning lab mission while remaining flexible to adapt to various contextual factors. Flexibility is a key aspect of other frameworks and will be adopted to create a more versatile tool (Fuhr et al., 2007).

2.4 Gaps in Literature

The literature on new media literacy and virtual library spaces shows significant progress in recent years, but notable gaps in research are persistent. Although some libraries are making efforts to use social media for youth audiences, the guidelines and instruction provided on how to approach virtual space lacks supportive research. Although Chicago YOUmedia represents an exciting move towards research-based programming, there has been limited follow-up evaluation of the role of libraries in creating and maintaining virtual spaces that present the opportunity for participatory culture and informal learning.

The literature on evaluation provides a strong foundation for evaluating diverse structures of public libraries, but does not address the new structure of social media learning spaces. As traditional library goals differ from the informal learning space goals of the virtual learning lab, there is a need to clarify how virtual learning lab goals can be constructed as the precursor of a new evaluative framework.

This study will therefore build the foundational levels of an evaluative framework based on the experiences of current learning lab sites and existing approaches to evaluation.

Chapter 3: Methodology

3.1 Subjects

Eligible organizations in this study were recipients of the IMLS and MacArthur Foundation 21st Century Learning Lab Grant. At the beginning of the study, twelve sites were awarded, including nine that included a library as a main partner. The author requested access to the IMLS grant proposals for all nine of these awarded sites and used the contact information found on the proposals to reach out initially to each of them and to the Chicago YOUmedia site. In many cases, the primary contacts from the proposal were not the primary staff member working on the project. Often times, library staff would direct the author to the appropriate library representative. Although not all sites were willing or able to participate, the author was able to interview a total of 7 staff members from four learning lab sites. There were two interview participants from the Free Library of Philadelphia (FLP), two from St. Paul Public Libraries (SPPL), one from the DaVinci Science Center (DSC) (partnered with Allentown Public Libraries), and two from Chicago YOUmedia. From Chicago YOUmedia, one participant was a Chicago Public Library (CPL) staff member who works in the learning lab and the other was a staff member from the Digital Youth Network (DYN).

3.2 Grounded Theory Approach

Due to the exploratory nature of this study, a grounded theory approach was adopted to provide the author with flexibility in developing research questions and defining the core concepts related to the experiences of the staff developing virtual

learning labs. Grounded theory, often used by researchers to reach both academic and non-academic audiences, presents an approach to generating original theories that are grounded in data (Strauss & Corbin, 1998, p. 6-8). Strauss and Corbin (1998) describe theory as “a set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena” (p. 15). This study does not intend to produce a theory; rather, the grounded approach is used as a means of developing concepts and evaluative tools based on the information about staff experiences gathered through the interviews.

3.3 Data Collection

3.3.1 Participating Sites

In order to provide context for each of the sites, a description of the organization and their history with youth programming and online youth engagement follows.

The Chicago YOUmedia site represents the first learning lab and is the structure that the new sites are modeled after. Although YOUmedia was hailed as a success overall, the online environment was identified as a main challenge. Interviews with a staff member from CPL and DYN revealed varying views on the success of the iRemix platform, designed by DYN to be used as the YOUmedia virtual space. While the DYN staff believed that iRemix successfully provided a virtual extension of in-person workshops in the learning lab, the library staff member described difficulty in engaging youth in the online space. This led the CPL staff member to stop using iRemix with youth and instead use free social media tools that seemed to best fit

specific in-person workshops. This partitioned approach makes the mission of the virtual space unclear and difficult to evaluate. Although the physical and virtual spaces “both are designed to draw teens into progressive levels of participation in digital and traditional media,” the virtual space was not included in the discussion of hanging out, messing around, and geeking out in evaluation of YOUmedia’s first year (Austin, 2011, p. 1). Interviews were used to collect staff and youth opinions on the virtual space but usage data will not be reported until a later evaluation of the learning lab (Austin, 2011). It is therefore still unclear what Chicago YOUmedia’s plans for virtual space evaluation entail and how their evaluation will lead to an increased understanding of how to build informal learning environments online.

FLP is comprised of 54 branches, one of which is under construction for the new addition that will become the physical learning lab space. One staff member interviewed had been involved with some of the recent social media infused programming as well as the planning process for the learning lab. The virtual space was discussed as an eventual program component, but as one of the FLP staff members explained, “once we have our space and once we have dedicated workshops, that’s when we begin getting teens involved and getting them accounts” (FLP Interviewee #1). When questioned about the future virtual learning lab space, both staff interviewed discussed recent youth programming efforts they were involved in that incorporated social media. These initiatives include a college prep program that uses an online management tool with social media features as well as a summer program that hired teens to perform “action research” regarding what their ideal teen space at the library would look like. The teens were provided training on

the blogging platform *tumblr* where they were required to document their thoughts and findings. Both programs incorporate social media, but they are not geared towards developing a virtual space that could facilitate the dynamic learning environment of a participatory culture. As explained by one of the staff members in the above excerpt, the library plans to pursue virtual space planning after the physical space is more established. FLP's program proposal explains that observations and interviews with students, staff, partners, and leadership will be used to evaluate the program; it is not clear, however, what will be evaluated virtually and how observations and interviews will contribute to the evaluation of the virtual learning lab.

SPPL has 13 branches and is opening a new physical space for the learning lab along with a mobile and virtual space. Each of these spaces will be managed jointly by the library and its partner, the St. Paul Parks and Recreation Department (Parks). This site communicated considerable planning efforts and challenges associated with developing their virtual space. The library had not previously used social media for youth programming. The learning lab leadership had originally intended to use the iRemix platform but at the suggestion of a web developer, decided to experiment with youth interest and engagement in freeware. Through experimentation, they hoped to more thoroughly conceptualize the form and function of the virtual space, the staff maintenance required, and resulting costs. Concurrently, SPPL and the Parks placed emphasis on establishing an organizational culture for the learning lab through staff trainings that would tie in with the eventual virtual space structure. Although SPPL planned to use the Youth Program Quality Assessment (YPQA) to evaluate their

learning lab initiatives, the virtual space planning remains the least directed component of the learning lab. Such observations led the current study to explore key concepts and guiding questions for future learning labs to consider when making decisions that will affect the virtual space.

DSC, partnered with the Allentown Public Library (APL), presented a different approach to the learning lab physical and virtual space development. Instead of opening a new physical space for the learning lab that DSC and APL would share, the learning lab relies heavily on a virtual world designed by DSC where youth and mentors can interact and share work and ideas. The space was created early in the planning process as a self-sufficient structure. It was introduced to youth in the learning lab's first pilot program that took place within a summer camp program led by a community partner, and is currently being used in a second pilot program in Allentown Public Library. The interview with a DaVinci staff member indicated that though the structure of the virtual space was fairly established, the way it would be used by the learning lab community would be further defined based on the outcomes of pilot programming. DVC had the most developed virtual space, but its plans for partner involvement and staff training were less actualized. DSC's participation in this study provides insight into a unique approach to the function of the online space as a virtual world. In addition to Chicago YOUmedia, DVC also provides an example of a virtual space planning process that will be administered through a public library but is designed by a partner outside of the library.

3.3.2 Semi-Structured Interviews

Semi-structured interviews were used in this study in order to provide flexibility and to allow for conversational depth on topics interview participants or the researcher found interesting or important. As explained by Dearnley (2005), who also used semi-structured interviews to collect information from staff in her field:

“Semi-structured interviews allow all participants to be asked the same questions within a flexible framework. All participants were asked questions from the same loose set, but there was no defined ordering of the questions. Participants were encouraged to talk about their experiences through open-ended questions, and the ordering of further questions was determined by their responses.” (p. 22)

Each interview was about one hour in length and was conducted via phone. Each interview was recorded and transcribed by the researcher.

This study was initially motivated by the Year 1 Report of YOUmedia that discussed the virtual space as a key challenge (Austin et al., 2011). The research questions first focused on discovering why these challenges occurred, if they were widespread, and where new learning labs encountered successes and challenges in virtual space endeavors. Original interview questions asked about the social media tools libraries used for their space, how the tools were integrated in to programming, how these decisions were made, and the organizations’ experiences with the space at the time of the interview, roughly halfway through the 18 month planning grant.

It quickly became apparent, however, that learning lab sites were at very different stages of their virtual space development and adopted varying approaches to determining what the space might look like and its overall purpose. Several of the sites also seemed to struggle with this conceptualization part of the planning process and one site had recently started over with their virtual space plans due largely to the feedback of a web designer. Some of the learning labs seemed to be making progress

and taking definitive steps in the planning of the learning lab physical space. However, despite the labs' foundation of informal learning literature and the existing YOUmedia lab as a model, there appeared to be a lack of direction regarding virtual space planning. Furthermore, the context of the labs varied greatly. One lab, for example, created the virtual space first, followed by in-person programming, whereas another site with a history of social media was mostly focused on the physical space of the program and did not intend to create the virtual space until after they had developed their ideas for in-person programming. The widespread uncertainty in the structure and purpose of the virtual space and the variance in external influences led the current study to focus on research questions more related to the conceptual development of learning lab virtual space and providing a tool to evaluate the goals of virtual spaces across diverse settings. Libraries will still need to evaluate their own needs, resources, and limitations, but the guided needs assessment is intended to help libraries identify the factors that may influence the planning and implementation phases and determine evaluation goals and mechanisms that are appropriate to their organization.

3.4 Data Analysis

After interviews were conducted, the author completed several rounds of coding consistent with the qualitative data analysis approach discussed in literature on developing grounded theory (Strauss & Corbin, 1998). First, open coding was employed as the author reviewed the interview transcripts in order to identify and develop concepts (Strauss & Corbin, 1998, p. 102). This analysis produced concepts

associated with the social media functionality staff members were interested in, external influences that affected virtual space planning, and types of goals organizations had in mind for the virtual space. During the axial coding, however, it was difficult to understand the relationships between the categories (Strauss & Corbin, 1998, p. 127). First, sites were at varying stages in planning, which made it difficult to identify the inconsistencies. What was discovered in the axial coding stage, however, was the inconsistency between goals and planning for the virtual spaces discussed by the sites and the concept of informal learning space from the literature that the learning labs were built upon. This led to the identification of a unifying category in the final selective coding phase.

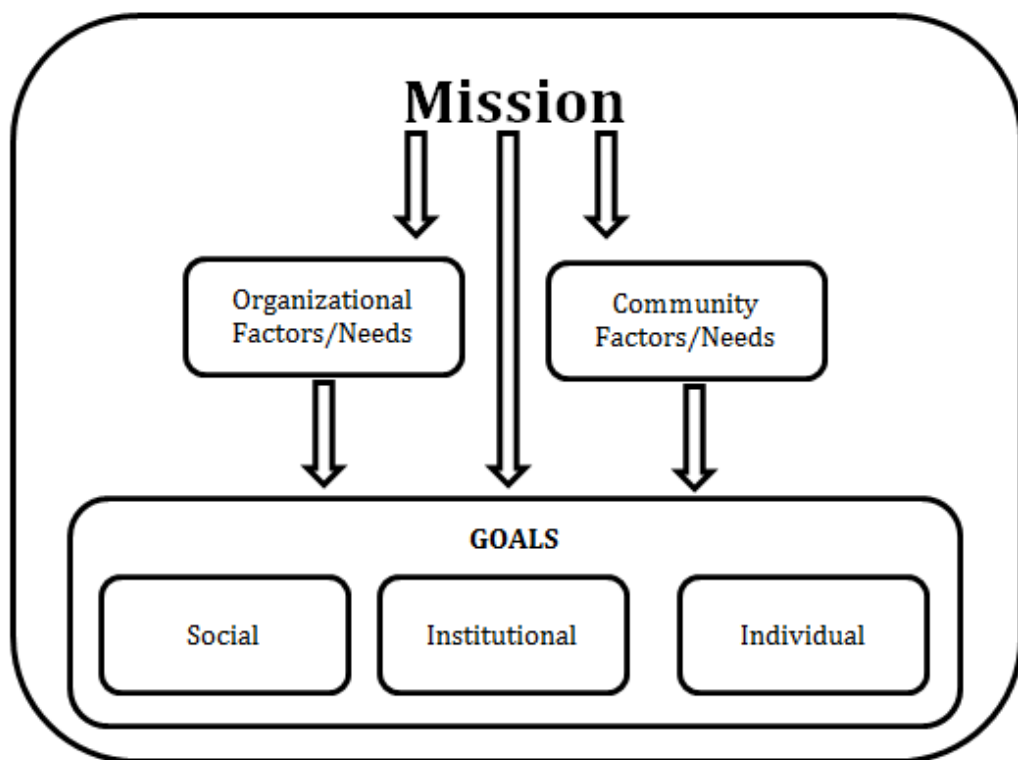
Selective coding is “the process of integrating and refining categories (Strauss & Corbin, 1998, p. 143) that begins with identifying a central category that pulls all existing categories together (Strauss & Corbin, 1998, p. 146). The central category chosen for this study is Virtual Learning Lab Spaces: Commitment to an Informal Learning Environment. The research-based informal learning environment is the mission that ties learning labs together. Libraries display great variation, however, in the number of opportunities they provide for an informal environment, if any. An overarching presence of the learning lab mission is critical in all other phases of planning and implementation.

The coding categories were first used to create level one of the evaluative framework which provides two domains for needs assessment: (1) Learning Lab Community Profile and (2) Organizational and Management Profile. Information

related to each of these domains can be used to identify needs that will affect the informal learning community of the virtual space.

The framework structure provided in figure 3.1 demonstrates the overarching influence of learning lab mission on evaluation initiatives and the need for specific goals that are influenced by the community and organizational context of a learning lab. While this visual provides an impression of the overall framework, Chapter 4 will discuss each of these categories and how they are defined from the experiences of current learning labs. The Chapter 4 analysis will thus illustrate how libraries at different stages in developing an informal virtual learning space can use an evaluative approach to implementation and improvement.

Figure 3.1: Virtual Learning Lab Evaluative Framework



In order to demonstrate how information from this guided needs assessment can be used to establish goals for the virtual space, level two of the framework adapts Saracevic and Covi's (2000) breakdown of goals on individual, social, and institutional grounds. The guiding questions for goal development in each of these areas focuses on how to develop goals and actions based on the underlying mission to create an informal learning environment.

Chapter 4: Results

This section will describe how the levels of the evaluative framework were constructed based on the overall mission of learning labs and the experiences of current learning lab staff members. The author was able to compare organizations across varying approaches to virtual space creation and current development phases by identifying contextual factors that influence each lab. Organizing this contextual information also helps to illustrate how organizations can use information from internal assessment to create goals.

This section will first dedicate its discussion to identifying the construct of the learning lab and the potential elements that could be addressed in an evaluation. The first level of the framework provides a needs assessment that guides libraries to consider elements that may influence current or future learning lab planning. The second level of the framework will offer directive on formulating goals that stem from the mission and incorporate findings from the level 1 needs assessment.

4.1 Mission, Construct, and Criteria for Evaluation

Saracevic and Covi (2000) created an evaluative framework for digital libraries by first starting with definitions of the digital library and identifying potential areas for evaluation. This evaluation will begin with the IMLS description of the intended purpose of the grant recipient sites:

“The Labs are intended to engage middle- and high-school youth in mentor-led, interest-based, youth-centered, collaborative learning using digital and traditional media” (Institute of Library and Museum Services, n.d.)

From this interpretation of the learning labs' mission, the author identified some elements of the learning lab construct that could be evaluated:

1. Engagement
2. Mentor and Staff roles
3. Interest-based activities
4. Youth-centered collaborative environment
5. Learning with new media (digital and traditional)

As discussed in section 2.2, Austin's (2011) Observed Model can also be used to identify potential areas of evaluation. The identified elements are very similar to those extracted from the IMLS definition but provide additional partitions:

1. Youth and Staff - Experience of staff in serving youth community
2. Interest Driven Activities
3. Media Artifacts
4. Relationships
 - a. Youth-to-Staff
 - b. Peer-to-Peer
5. Interest and Friendship Driven Motivation
6. Behavior that characterize a dynamic learning environment
 - a. Collaboration
 - b. Participation
 - c. Engagement
 - d. Critical Thinking

A final learning lab element not included in the above conceptualizations is friendship driven activities in addition to those that are interest driven. Friendship driven activity is discussed in the literature as a key motivation of hanging out, messing around, and geeking out (Ito, 2009). This study has integrated these three lists to provide a full list of the learning lab elements that are candidates for evaluation:

1. Learning Lab Staff
 - a. Experience of staff
 - b. Mentor and Staff roles
2. Opportunities for Engagement
 - a. Interest Driven Activities

- b. Friendship Driven Activities
- 3. Media Artifacts
 - a. Digital
 - b. Traditional
- 4. Relationships
 - a. Youth-to-Staff
 - b. Peer-to-Peer
- 5. Behavior that characterize a dynamic learning environment
 - a. Collaboration
 - b. Participation
 - c. Engagement
 - d. Critical Thinking

Saracevic and Covi (2000) then go on to identify potential criteria for evaluation in order to determine how different elements of the construct will be analyzed and judged. Saracevic and Covi (2000) approach digital libraries as traditional libraries, information retrieval systems, and human computer interfaces and develop criteria for each structure. Future research may address how virtual learning labs could be integrated into traditional library services and be evaluated through traditional library criteria, but the current study will focus exclusively on evaluating virtual learning labs as informal learning spaces. Based on the interview coding, we can see that the criteria for informal learning spaces are largely undefined for the virtual space. Although the learning lab mission promotes new media literacy through both formal and informal engagement opportunities, informal environments are the focus of related literature (Jenkins, 2006; Ito, 2009). This study will therefore focus exclusively on the elements within the learning lab construct that can be evaluated based on the opportunities they present for participatory culture through informal learning environments.

Although there is a lack of commentary in the literature surrounding the mission and goals of learning lab virtual spaces, Chicago YOUmedia's does state their

commitment to hanging out, messing around, and geeking out engagement opportunities through creation of both physical and online space (Austin, 2011). Although not every grant-funded learning lab decided to create a virtual space, both Ito (2009) and Jenkins (2006) refer to online social networks as key sites where informal new media learning takes place. Though YOUmedia reported success with both formal and informal opportunities in its physical space, the interviews with staff reveal the virtual space to mainly pursue a role as an extension of formal in-person activities.

“So one of the ways we use [iRemix] is creating groups that again kind of reflect any workshop or project that happens and there, I can run it just like an online curriculum... [the kids] can still connect at their leisure, but for the mentors it's about you know making those check points and being very explicit about how students can connect.” – DYN

Although using social media to provide a curriculum and create explicit opportunities for use may help to achieve goals of a formal learning experience, such an approach is not congruent with the informal learning environment supported by Ito (2009) and Jenkins (2006). This study seeks to push organizations to realize the outcomes that can be achieved when creating virtual space supported by the literature on informal learning.

The evaluative framework presented in this study presumes that learning lab sites are seeking to create virtual spaces based on the same literature foundation that catalyzed the learning labs. The framework structure of utilizing a learning lab's mission and contextual influence in order to build goals is influenced by evaluative work completed for public and digital libraries (Bond, 1997; Saracevic & Covi, 2000). The guiding questions for the needs assessment, goal setting, and choice of evaluation mechanisms will prompt users to consider the implications that decisions

will have on informal engagement opportunities while at the same time being flexible enough to apply to various elements within the virtual space construct.

The learning lab definitions presented above do not pertain specifically to the system-centered elements of the virtual space. As this study focuses on the participatory culture of the learning labs, system constructs and related criteria will be discussed as areas for further research in Chapter 5.

4.2 Level One Results: Needs Assessment

The coding of the interviews helped to identify key concepts that played a role in the virtual space planning. These concepts were used to develop two main categories for an evaluative needs assessment tool: Learning Lab Community Profile and Organizational and Management Profile. The goal of the needs assessment is to help libraries identify baseline information from which they can develop goals (Bond et al., 1997, p. 7).

4.2.1 Learning Lab Community Profile

The first section of the needs analysis identifies factors within the community that influence learning lab decisions.

Table 4.1: Framework Level 1.1 - Needs Assessment: Learning Lab Community Profile

1.1.a. Identify Spaces or specific tools already used by youth
1.1.b Determine type of interaction youth are interested in and value they see
1.1.c Identify Age Group(s) the space will serve
1.1.d Identify convenience factors for youth
1.1.e Identify opportunities for engagement in Hanging Out (youth and mentors)
1.1.f Identify opportunities for engagement in Messing Around (youth and mentors)
1.1.g Identify opportunities for engagement in Geeking Out (youth and mentors)

Identify Spaces use and Interactions of Youth Interest (1.1.a and 1.1.b)

One element that may affect opportunities for engagement in the virtual space is the current virtual practices and preferences of youth in the community (1.1.a and 1.1.b). The importance of understanding youth practices and preferences is clearly reflected in the experiences of Chicago YOUmedia. YOUmedia decided to use the iRemix tool designed by DYN for afterschool and classroom-based programming administered by DYN. One member of the CPL staff describes the tool as unappealing to the teens she worked with because it was not aligned with the tools they were using:

“...a majority of the kids were already posting in other places. So it was like reposting their work into iRemix. And they also complained that there were no notifications. So they had to you know manually sign into iRemix just to see if anything had happened, they you known couldn't get notification in any other way and also they had to go to all of their individual sort of pieces they were using to see if anyone made comments because there was no sort of home screen that gave you a feed of information.” – CPL

This observation helped to build the first two items of the needs assessment. These items guide organizations to think about where youth spend time and how a virtual learning space could build upon their current behavior or offer an opportunity they had not yet taken advantage of. Additionally, these items may serve as a means of understanding how youth currently engage in hanging out, messing around, and geeking out so the library can provide opportunities that build upon current youth behavior and are driven by existing interests. SPPL also communicated concerns about developing a space that does not meet the needs or interests of youth.

“[We are] trying to discover exactly what kids are using because we're all adults. Trying to discern what's going to work best and most effectively with them.” – SPPL [Interviewee 1]

What is interesting about SPPL's approach is that they have already identified gaming as an area youth are interested in and plan to provide a server to play the popular Minecraft game as a means of attracting youth to the new physical space. SPPL does not seem to have plans, however, to build their virtual community around this interest or tap into the existing virtual spaces driven by youth interest in Minecraft. Minecraft.net/community, for example, is a portal to a plethora of virtual spaces for members of the Minecraft community to interact through social media. A few examples of these game-specific virtual spaces include Minecraft communities on popular social media networks like Facebook and Twitter, multilingual forums for discussion, and Minebook, a social network designed specifically for Minecraft enthusiasts. Depending on the resources and contextual factors of a learning lab, a library could encourage youth to engage in existing virtual spaces for the game or providing the resources, training, and mentorship needed for youth to design of new virtual space for a Minecraft community within the library. Gaming communities are often used as examples of how teens can engage in the three genres of participation (Ito & Bittanti, 2009, p. 201). Beyond simply providing a server for game play, for example, the library could present a virtual space for forum- type discussion where youth could write fan fiction and share media related to the game.

Instead of proactively building on this space of interest, however, SPPL plans to wait until they have a youth community involved in physical space programming through which they can recruit a youth advisory board. This raises the question of not only how information will be collected, but also from whom. Such decisions will be addressed in level three of the framework.

Identify Age Group(s) Served (1.1.c)

Not only do youth experiences and preferences for social media vary by community, but CPL and DYN also noticed an impact of age on the type of youth engagement in the virtual space.

“The [middle school] kids are much more engaged in iRemix [than the highschoolers] because they’re younger so they don't have as many ...social media groups” – CPL

“What I notice in those sites, is the differentiation between the middle school and high school - middle school it gets quite a bit more use from what I've seen and part of that I think is related to their access to social networks” – DYN

Although the effect of age on social media engagement is an understudied relationship (Grimes & Fields, 2012), libraries can learn from the experiences of Chicago YOUmedia and be aware that differences between age groups may arise if they are seeking to serve both middle and high school youth. The basic observation of CPL and DYN is that the lack of access to online social networks among youth under age 13 makes them more likely to be interested in the online social interactions that they do not experience elsewhere. Current efforts to serve middle school students focus on designing closed social media networks that allow youth to engage in a participatory culture that fosters new media literacies while protecting youth identity (Ahn, Subramaniam, Fleischmann, Waugh, Walsh, & Druin, 2008). Such research should be considered if libraries intend to serve this age population.

Identify convenience factors (1.1.d)

DSC, on the other hand, sees the lack of youth access to learning institutions’ physical spaces as something that drives youth engagement in a virtual setting (1.1.d).

The lab focus on virtual space grew from a reaction to this demographic feature of the youth population DSC hopes to serve:

“[The science center and the library are] two organizations that have very limited physical space... So this virtual world seemed like a way to address that. And also the fact that we have a dispersed teen population. So Allentown is a fairly spread out city for its population and so, with a terrible transit system, so teens have a hard time getting to the library, except for those teens that walk by it on their way to and from the high school.”

Geographic location is mentioned by two organizations as a key factor influencing the convenience of a learning lab to its youth community, but one could envision other elements that could impact convenience. Such factors could include the ability to log in with other username (i.e. the platform provided is linked to Facebook or Twitter) or could relate to how notifications about activity in the space are communicated (i.e. through email or a mobile application). The framework provides a more general approach in order to remain flexible and applicable to diverse communities.

Identify potential opportunities for engagement (1.1.e, 1.1.f, and 1.1.g)

FLP has also taken steps to understand the interests of the youth community, but these inquiries were not always focused on creating informal activities. When surveying youth about their interests, FLP found that youth wanted drivers' education and cooking classes. It was not apparent, however, that FLP presented options that highlighted informal engagement opportunities. Cooking class, for example, represents a potential area for informal learning opportunities that could make use of virtual space for engagement, but drivers' education classes represent a more formal service that does not align with the media literacy mission of learning labs. Applying the needs assessment provided in this framework, FLP would be prompted to identify

how to create youth engagement opportunities for the topics that most interest youth (1.1.e, 1.1.f, and 1.1.g).

Finally, based on different characteristics of their youth community, a library can assess where opportunities for hanging out, messing around, and geeking out exist and the form such interactions could take in a virtual context. These items of the needs assessment are shown in 1.1.e, 1.1.f, and 1.1.g. These items highlight the key role that adult mentors play as members of the learning lab community. Recent literature refers to the role of the adult mentor (Ito et al., 2013) in addition to the characteristic ability for youth to move into mentor roles within a participatory culture (Jenkins, 2006). In order to achieve an informal environment, both youth and adults must be considered in terms of potential interactions in the space. iRemix, for example, uses vocabulary such as “class” and “curriculum” to describe mentor involvement in the program. This seems to indicate that interactions are not driven by interest or friendship, but rather by a more formal interpretation of virtual learning that impacts the opportunities for both youth and staff engagement:

“I’ve seen like stuff at colleges like you know there are internet systems and things like that, but you know they’re not the easiest things to use but you’ve got to use them and they’re part of the curriculum ... And that’s kind of like the stance that we kind of take on it is like you know we know this system is a development, a lot of things work well, but the goal I think is to embed it within your class.” – DYN

DSC also draws attention to how identifying opportunities for engagement is key in the pursuit of a participatory culture. DSC describes how the opportunities available on the virtual space are limited to geeking out without as much focus on hanging out and messing around (1.1.e, 1.1.f, and 1.1.g):

“getting online is itself an act of geeking out and so teens who are dropping into the library to chill out and use Facebook are not so interested in the virtual world.” – DSC

As discussed above, SPPL describes gaming as a means of hooking youth into a space without discussing the potential for building other levels of engagement through gaming:

“...so we're using gaming kind of as the hook to get the kids into the space, getting comfortable in the space, knowing that games are so low stakes, you know you don't have to worry about knowing how to do it because everyone knows that you have a learning curve, and everyone expects you to fail a couple times before you master the game, and so we're really, we're trying to use it as a hook to get kids into a lot of these spaces. But that's kind of where this gaming idea has come from. Just trying to make sure that kids have an opportunity to play and not just be plugged into programs or homework help or that kind of thing.” – SPPL [Interviewee 2]

The items presented in level 1.1 of the evaluative framework represent aspects of the library community that may affect decisions about the virtual space. The list provided is not intended to be collectively exhaustive, but rather provides items that played a pivotal role in the implementation plans of current learning labs. The framework allows these experiences to serve as a guide as more institutions take steps to create an informal virtual learning environment to promote new media literacy.

4.2.2 Organizational and Management Profile

Table 4.2: Framework Level 1.2 – Organizational

In addition to understanding the effects of the learning lab community on culture and engagement, recognizing the impact of organizational elements on the learning lab will help to develop steps that need to be taken to sustain a learning environment that achieves the learning lab mission.

Table 4.2: Framework Level 1.2 – Needs Assessment: Organizational and Management Profile

1.2.a Determine how the virtual space is situated within the learning lab and the library
1.2.b Determine organizational hierarchy (including partners)
1.2.c Determine division of responsibilities (including partners)
1.2.d Specific digital/tool-based training
1.2.e Mentor role training/resources
1.2.f Training on how to monitor and maintain the space

Connection between virtual space and library at large (1.2.a)

First, for both technical and planning reasons, it is beneficial to examine the relationship between the learning lab virtual space and the rest of the learning lab as well as the spaces of the library as a whole (1.2.a).

“I think it would also be really nice from the library standpoint when the social media tool we're using with the students is part of sort of the whole library system. Because at the moment iRemix only lives in sort of the YOUMedia locations and it's not really connected with the rest of the library. And I mean that's sort of one of the bigger goals of us moving forward with YOUMedia is how do we integrate what we do a little bit better in sort of the library as a whole.” – CPL

This framework does not suggest that virtual spaces should be connected to the library website but rather encourages consideration of the desired connectedness of the learning lab virtual space to other library structures. This concept is also alluded to by SPPL when they explain the virtual history of the library and youth services; the learning lab represents the first time the library will have a virtual space directed specifically towards youth. Such a change therefore raises questions regarding what connection or oversight will take place in a newly segmented social media approach.

Organizational Hierarchy and Division of Responsibility (1.2.b and 1.2.c)

The concept of oversight also brings to attention management items such as chain of command (1.2.b) and division of responsibility (1.2.c). Partnerships are a

component of all of the learning lab sites in the study and a majority of all awarded sites. Chain of command and division of responsibility can be assessed even if a site does not have partners, but the role of partners was significant in this study's interviews and therefore is included in these organizational and management profile items.

SPPL's experience with determining chain of command and division of responsibilities started with the creation of new positions within both the library and their partner, the Parks. Although SPPL has not determined the structure of the virtual space or staff responsibilities within that space, they plan to remain consistent with even division of responsibility between partners:

“All of our staffing for the physical space is going to be 50/50 with parks. We are considering this a joint space, so I can see the social networking piece being a shared responsibility as well.” – SPPL [Interviewee 2]

Still, it is important to assess the strengths and weaknesses of an organization and its partners in order to divide tasks and mitigate the risk of inconsistencies between partner practices:

“for the DYN mentors, [using iRemix is] required. Because we really feel like we want to build that into the culture. But also we have the librarians using it too and I think because there's not necessarily a requirement for them to use it, it's just suggested, it doesn't get as much use from the library.” - DYN

SPPL also discusses differences between partner strengths that may affect the virtual space. The Parks has less experience with social media, but a stronger connection to the public school system that the learning lab hopes to eventually include in the virtual space. Though partners may share responsibility for learning lab spaces, including the virtual space, consideration of the strengths and experiences of partners may affect the quality and sustainability of the space.

Staff Training (1.2.d, 1.2.e, and 1.2.f)

One means of understanding how staff members contribute to achieving the learning lab mission is by evaluating both their skills and the training resources they have access to. The DYN concern, for example, that library staff are not as connected to iRemix because they are more familiar with Facebook or Twitter, could be addressed by examining the experience required for the librarian job description as well as training provided to teach staff how to use iRemix (item 1.2.d). Resources could also be reviewed for emphasis on the importance of consistent virtual space practices for the overall learning lab culture (1.2.e).

“I think the difference between the use of Remix with the library staff versus DYN staff is it's embedded in our DNA, DYN DNA, to you know really maximize the digital landscape. So we know the things kids get connected to face-to-face, but we want to really be key about that idea that kids should be able to learn anytime anywhere. And I think the library has that in their DNA as well, but I think you know most folks are used to Facebook or Twitter”- DYN

Training resources are complex, however, as evidenced by SPPL's experiences with training. At the time of the interviews, the main training emphasis was on organizational culture that was extended to staff in both the library and the parks:

“And then the fourth piece which we're finding to be more and more and more important has to do with staff training and development because we're looking at the findings from Chicago and elsewhere that the personal relationships between teens and caring adults is probably at least as important as the technology used. And we see both the library and the parks and recs departments as having staff who have been around for a long time who may not understand the concepts of hanging out, geeking out, messing around as valuable and somewhat discouraged. So we're looking at how we create a new culture amongst staff that will help us to realize our vision.” – SPPL [Interviewee 1]

“I think in an ideal world we'd have the space to hire new people who were really enthusiastic about this because I think it is such a different kind of role than most library staff have played before but my guess is we're going to be doing mostly internal hiring and I think what we just need to do is find people who have kind of

a passion to connect with teens and then take that passion and extend it hopefully to the virtual world.” – SPPL [Interviewee 2]

Despite this focus on training about the vision and mission of the learning lab, however, there still remains a need for the breakdown of day-to-day responsibilities of staff in contexts such as the virtual space (1.2.f):

“that was actually one of the main concerns that the web consultants brought up-- the fact that creating the space was just, you know, the tiniest piece and that for it to be really effective that there would have to be profound commitment to staffing it. So that’s a piece that we’re very very aware of, we don’t have an answer to it yet.” – SPPL [Interviewee 1]

“The biggest thing that the web developer talked to us about was your site is only as robust as the staff you have behind it, you can’t just put up a really good site and just let it go. And so making sure that it is maintained both on a technical level and giving really prompt feedback from the mentors to the kids that post on there so they see the value in actually posting on it.” – SPPL [Interviewee 2]

DVC is currently weighing ideas for the role of mentors and is making plans to experiment with this role in its pilot program. FLPs’ plans to develop staff roles in the virtual space are underdeveloped as they do not plan to implement virtual space programming until after they launch their physical space programming. This study does not promote a specific time to start developing training materials, but recognizes that staffing structure and resources are a consideration in the management and sustainability of a space.

4.3 Level Two Results: Goal Formation

The second level analysis provides guidance in translating information about baselines found from the needs assessment into goals for a learning lab virtual space. This section demonstrates how goal formation can differ based on the outcomes of the needs assessment and the planning phase of the organization with respect to their virtual space.

The three contexts, social, institutional, and individual, were drawn from Saracevic and Covi's (2000) evaluation scheme. The guiding question for each context was adapted to address the learning lab virtual space. To concentrate on the core mission of creating participatory culture, the criteria for each goal will be the extent to which a goal is focused on building an informal learning environment. Sample goals will be provided for each context along with a list of items libraries should consider when adapting the goal to their organization.

Table 4.3: Framework Level 2 – Goal Formation Guide

Context of Evaluation	Guiding Question	Sample Goal
Social	How well does the virtual space support opportunities for hanging out, messing around, and geeking out?	Provide opportunities for the three engagement levels (hanging out, messing around, and geeking out) for both youth and staff.
Institutional	How well does the virtual space make use of library and partner resources? How do management structures and practices reflect this?	Define staff membership in the virtual learning lab through roles that promote hanging out, messing around, and geeking out.
Individual	How well does a virtual space support new media literacy needs and the general interests of youth served by the library? How are these opportunities friendship and interest driven?	Develop a virtual space based on the current online interests of the teen community that promotes friendship and interest driven engagement.

4.3.1 Social Context

The social context of evaluation for digital libraries addresses how well the library meets the needs, roles, and practices of a community. As hanging out, messing

around, and geeking out are the desired practices within the participatory community, the social context for virtual spaces will address the following question:

How well does the virtual space support opportunities for hanging out, messing around, and geeking out?

Goals within each context can draw from any of the items in the needs assessment. For example, the interviews with CPL and DYN reflected youths' ability to geek out in workshops and communicate with mentors in a virtual context, both through iRemix and external tools used by the CPL librarian. There was no description, however, of youth moving fluidly between geeking out to the other genres of hanging out and messing around. These observations can be used to generate the following goal:

Sample Goal 1: Provide opportunities for the three engagement levels (hanging out, messing around, and geeking out) for both youth and staff.

Goal 1 Considerations:

Gather information about where youth are spending time online and if their behavior on those sites can be classified as hanging out, messing around, or geeking out.

Evaluate the difference between what these outside tools provide and what the tools used in the libraries provide.

Determine if the library should modify efforts to engage a youth community on the tools currently used or if there are opportunities for a library community on other tools that youth use outside the library.

Decide which tools will be used and to what extent each provides opportunities for engagement in the three genres. Use this information to build a rubric on which engagement in the virtual space can be observed.

To satisfy the criteria of creating informal opportunities, this goal is framed to avoid actions such as requiring youth to perform specific tasks or activities. Instead, it drives the organization to learn about youth that can motivate community formation.

After the organization completes the components of the goal described above, there are further steps they should take to determine the best measure of community participation in the three genres of participation. The rubric, for example, could analyze usage data as a part of output assessment to tracking the number of times a tool is used in a certain way. An outcome-based approach could be used to conduct interviews of staff and youth at set time intervals (i.e. every 3 weeks for 3 months) regarding the effect of the available opportunities on their engagement in the space. A performance approach could also be introduced to determine how usability of the technology is affecting engagement (Bertot, 2004, p. 3). A service approach does not as easily fit into the scope of such a goal, as staff members are not necessarily providing services, but are rather engaging as members of a community. Though staff roles may include providing technical support or interacting with youth socially in the space, the concept of “services” in the virtual space is difficult to define. This draws attention to one area where the four approaches to evaluation are not applicable, as there is limited room to address community dynamics in the virtual space. If the goal of the informal learning space is to create a participatory culture, members must not only take advantage of the engagement opportunities, but they must do so in the context of the space’s social dynamics. As opposed to evaluating the actions of a single user or a service interaction between a patron and a staff member, as can be done when examining a structure such as a digital library, the learning lab virtual space is envisioned a community space. Although this paper will not propose a definitive means of measuring such community behavior, the role of community in the virtual learning lab should be a key consideration when constructing goals for the

virtual learning lab. Evaluation of community interactions is a proposed area of research discussed in Chapter 5.

Although the goals above were formulated based on the experiences of YOUmedia's virtual space efforts, similar goals can also be adapted to organizations in the early stages of development, such as FLP. Without an existing learning lab youth community, however, the scope of the goal will first need to adapt. For example, without current participants in a learning lab community, the library must instead discover the practices of a youth community the library would like to serve. The remainder of the approach, however, could be similar to the process described above.

4.3.2 Institutional Context

While Saracevic and Covi (2000) ask guiding questions about the integration of resources into institutional and organizational mission, the current study modifies these questions to include elements of partnerships and management structures that were identified as needs assessment items for learning labs:

How well does the virtual space make use of library and partner resources? How do management structures and practices reflect this?

The DaVinci Science Center is an example of an organization that took organizational strengths and weaknesses into consideration when planning partnerships, yet still had significant need for defined goals and transparent division of responsibility with respect to staff and the virtual space. The following goal was constructed with considerations listed for how the goal should be understood using the criteria of achieving an informal learning space:

Sample Goal 2: Define staff membership in the virtual learning lab through a role that promotes hanging out, messing around, and geeking out.

Goal 2 Considerations:

Determine how staff will act as members of the community

Determine how staff will promote hanging out, messing around geeking out

Determine how staff will demonstrate hanging out, messing around, and geeking out

Determine how staff members are mentors in the community

Identify the skills are needed to be a staff member of the virtual learning lab

Determine the training needed to prepare staff to be virtual learning lab members

Determine which staff in all partner organizations will be members on the site, how these members will be chosen, and if there will be varying levels of staff membership

Determine the amount of time staff should spend on the site and what is expected of staff during this time

Determine whom staff members from any organization within the partnership should report to if there are concerns about the virtual space

Again, these goals can be evaluated through outputs (e.g. number of youth-staff interactions in the virtual space), outcomes (e.g. longitudinal interviews or surveys with staff and youth on their relationships), and performance (e.g. an analysis of training materials and clarity of organizational structure). The service category again draws attention to the community aspect of a social media space. Although the goal above directs an organization to determine a structure for training and division of responsibility, this structure should follow an organizational focus on the need for skills and resources that contribute to informal learning. If a need for staff training is identified but resources are not aimed towards promoting the three levels of

engagement, the goal may have unintended consequences that depart from the informal learning environment component of the learning lab mission.

4.3.3 Individual Context

Although the discussion above identifies a need to focus on community interactions, goals can be evaluated appropriately in an individual context, particularly when concerned with the overall mission of creating opportunities for informal learning. The guiding question for the individual context of virtual learning labs mirrors that of digital libraries. In place of questions about tasks, activities, and information needs, the learning lab guiding questions focus on the opportunities the space provides for fostering new media literacies and the motivation behind individuals' engagement:

How well does a virtual space support new media literacy needs and the general interests of youth served by the library? How are these opportunities friendship and interest driven?

We can use the experiences of SPPL to provide an example of a goal that can be formed from this guiding question and needs assessment information. SPPL is unsure how the eventual virtual space will look, but has interest-driven motivation from youth to be involved in gaming through Minecraft. If a gaming community begins in the library, it is likely that friendship driven participation will ensue. The question remains, however, of how the virtual space and the participatory community will support individuals' interests and new media literacy needs. The following is an example of a goal that learning labs could adopt as a starting point for understanding how a friendship and interest driven community could be developed in a virtual library space:

Sample Goal 3: Develop a virtual space based on the current online interests of the teen community that promotes friendship and interest driven engagement.

Goal 3 Considerations:

Survey youth in the community about the platforms they use and types of interactions they engage in on these platforms.

If necessary, acquire the resources necessary to provide access to the platform through a library portal (i.e. buy server space, download software, install required plugins, etc.).

Observe the behavior of youth in the game and identify new media literacies being practiced.

Research online communities related to the platform and survey youth to determine if they consider themselves members of these communities.

Involve interested youth in the design of virtual library space that complements their current online interests.

In the case of SPPL, the first two steps were completed, as the library identified Minecraft as a popular platform used by the youth community and found that they could host server space to give youth access to a gaming community. At this point, the general goal above could be modified by SPPL to provide a more specific goal:

Develop the Minecraft gaming platform as a primary library virtual space that promotes friendship and interest driven behavior.

Communicate the new space to the youth who had expressed interest in a library server for Minecraft.

Observe the behavior of youth in the game and identify new media literacies being practiced.

Research online communities related to Minecraft and survey youth to determine if they consider themselves members of these communities.

Involve interested youth in the design of virtual library space that complements their interests in Minecraft.

This goal is clearly long term but provides an example of how an interest-driven space such as a Minecraft community can be used to create opportunities to practice new media literacies within the game itself as well as within virtual spaces related to the game. This goal can fit into the individual context of evaluation as the behavior of youth can be observed and mechanisms can be constructed to measure the extent to which individuals take part in activities that promote digital literacy. Youth involvement in online communities related to the platform will increase the demand for a related virtual library community. The library may see a need, for instance, to create a presence within existing online spaces like Minebook in order to meet youth where they are forging friendships with other Minecraft members. The library may conversely identify a need for a Minecraft community within an existing virtual library space. The library could also decide to create an entirely new virtual space where the youth community can interact. Design of such mechanisms, however, is beyond the scope of this study and will be discussed as an area of further research in section 5.3. In any event, youth can be involved in the decision process and evaluation mechanisms can be employed to track success in achieving a friendship and interest driven virtual space.

4.4 Interpretation of Results

The purpose of this evaluative framework is to encourage sites to identify elements that affect their virtual space and to generate plans to create informal learning environments that are supported by new media literacy research. This framework serves as a foundational guide that libraries and their partners can modify

and personalize to best fit their organizational context. Furthermore, this framework illustrates the foundational levels of an evaluative approach to virtual learning lab planning. Chapter 5 discusses further research that could add layers to the tool provided.

This study illustrates that an evaluative approach to informal learning spaces is both complex and important. In order to select from the myriad assessment approaches and measure elements of a space in a meaningful way, it is first necessary to approach goal formation in an evaluative manner. If public libraries desire to meet the needs for informal learning spaces online, they must be willing to frame their efforts in a way that can be evaluated. This will not only help the library to understand how to improve its own efforts, but will also contribute to a greater understanding of the role of public libraries in providing youth virtual opportunities for informal learning. If future libraries and learning labs adopt the framework provided in their planning and evaluation, there will be an increased understanding of how the mission of learning labs can be adapted across numerous library contexts. The needs assessment and goal formation guides can also be modified over time to provide more comprehensive categories for needs assessment.

The framework provided in this study is not a step-by-step guide to creating the perfect virtual space. There are many facets of the virtual space that are in fact not addressed at all in the present framework. Instead, the framework provides a sketch of how a selection of learning labs can be viewed through a lens of evaluative elements such as a framing mission, influential contextual factors, and goals developed on social, institutional, and individual levels.

Chapter 5: Conclusions and Discussion

5.1 Summary of Findings

This section will summarize the findings by revisiting the thematic questions of this study. Discussion of the outcomes of the study will highlight its contributions to the field of new media education and the impact of findings on public library youth services.

1. What is the mission of a youth virtual space in public library learning labs?

Although there is not a universal mission statement for learning labs, Austin et al. (2011) refers to the need for opportunities to engage in informal learning and participatory culture as the driving force behind the premiere learning lab, Chicago YOUmedia. These concepts are supported by the body of research on the participatory culture of informal learning environments (Jenkins, 2006) and the interactive behavior youth can display in such communities that fosters new media literacies (Ito, 2009). For the purposes of an evaluative approach, the author addresses informal learning opportunities as the mission of the labs as well as the criteria on which efforts and goals can be assessed. By centering the evaluative framework on the extent to which informal learning opportunities are provided, libraries are encouraged develop implementation plans based on a mission supported by literature.

2. How do libraries differ in their approaches to achieving the mission of learning lab virtual spaces?

The primary coding of the staff interviews brought to light inconsistencies in organizational approaches to informal learning and the extent to which each site

provided such opportunities. Without a commitment to providing informal learning opportunities, virtual learning labs stray from the literature that promotes friendship and interest as motivation for developing new media literacies.

DVC, for example, created a virtual space that they envisioned as a site for hanging out, messing around, and geeking out. The organization became focused on providing these forms of engagement when it recognized that youth were not entering the site because they did not view it as a place with opportunities to hang out and mess around with their friends:

“One [challenge] is that getting online is itself an act of geeking out and so teens who are dropping into the library to chill out and use Facebook are not so interested in the virtual world.” – DVC

Although this observation reflects one of DVC’s challenges, it also demonstrates the organization’s ability to evaluate based on how the virtual learning lab provides opportunities for informal learning. Chicago YOUmedia on the other hand describes successes and challenges, but it is often unclear if the successes and challenges are related to the learning lab mission. The CPL staff member, for example, found it difficult to motivate youth to use iRemix and instead adopted outside tools such as WordPress and Twitter in her workshops. As the experiences with iRemix were not evaluated based on its informal learning opportunities, it is difficult to determine both why iRemix was not successful and to what extent the new tools were an improvement in providing informal learning opportunities.

SPPL’s virtual space was not as developed as that of Chicago YOUmedia or DVC, but elements of an informal learning approach were evident in the library’s efforts. SPPL was hesitant to commit to a new platform, because they wanted

participation in the space to be driven by youth interest rather than the interests of the library or its partners. FLP was also early in the planning stages of the virtual space and was interested in gauging youth interest in virtual interactions; their staff's experiences with social media, however, represented more formal types of learning experiences, such as using social media to track SAT preparation or requiring teens to use a blogging platform as part of their job responsibilities. Although both of these uses of social media can be assessed for success and value, they do not conform to the mission of providing informal learning opportunities.

Sites also differed in terms of how they proceeded with virtual space implementation. When confronted with difficulty in virtual space engagement, CPL experimented with different tools while DYN continued using iRemix. SPPL, on the other hand, halted virtual space plans when they recognized the lack of youth directives they had on the virtual space. Similarly, FLP decided to wait until later in the lab development before experimenting with tools. DVC, however, had the most developed goals in terms of informal virtual space and was able to proceed with testing the use of the tool in two pilot programs.

Every learning lab will have a unique experience in planning a virtual space, but in order to evaluate any aspect of the space, the sites must be guided by a common mission. The variance in how the learning lab mission influenced each learning lab's implementation demonstrates the need for an evaluative framework that guides libraries and their partners through collecting information and forming goals through which best practices can be determined and weaknesses can be addressed.

3. What are the essential components of an evaluative framework that supports the learning lab in achieving its overall mission?

This study focuses on the standard processes included in an evaluative approach to virtual learning lab creation. In order to know why and how to evaluate a space, the mission of the construct at hand must first be considered. A breakdown of the learning lab mission is provided in Chapter 4 before the two major levels of the provided evaluative framework are introduced. The discussion of the mission also serves to establish the criteria for evaluation as the extent to which opportunities for informal learning are provided.

The two major levels of evaluation in the foundation framework presented are a needs assessment and a guide to goal formation. These framework components represent steps learning labs can take to evaluate their efforts at different phases of development. Both the needs assessment and goal formation guide stem from the overarching mission of learning lab.

The level 1 needs assessment is provided to help learning labs understand how the contextual elements of their community and their organizational structure may influence their learning lab planning. The needs assessment purposefully incorporates the language associated with participatory culture and new media engagement to guide libraries in conceptualizing the informal learning environment that embodies the learning labs.

The level 2 goal formation tool provides guiding questions to creating goals that addresses the social, institutional, and individual contexts of the virtual learning lab. Examples in Chapter 4 illustrate how elements from the level 1 analysis can be used

to shape goals. Discussion around the sample goals also demonstrate how the goals are formed with future evaluation in mind.

The framework is designed to acknowledge that though virtual learning labs may share a mission, their specific goals will vary based on the context of the community and the organizations involved in the learning lab partnership.

4. How can libraries, despite organizational and contextual differences, use the foundational evaluative framework provided to successfully plan virtual learning labs?

The framework for virtual learning lab evaluation was designed with a level dedicated to needs analysis in order to address the wide range of contextual factors that influence library planning. The categories provided in the level 1 needs assessment are not collectively exhaustive but highlight the factors that were discussed by current learning labs planning their virtual space. By extracting examples of determinants that influence learning lab planning and grouping them by category, the framework identifies potential differences between organizations while addressing the common mission to provide informal learning opportunities.

These contextual differences are integrated into the level 2 goal formation component of the framework as well. Libraries are provided with the same questions to direct goal construction in order to share the language of the informal learning mission when composing goals. The discussion about how to create goals that can be evaluated, however, refers back to information gathered in the level 1 needs assessment. Libraries are reminded that their goals should grow from their mission, but should be shaped by the elements that make up their community and organization.

Examples are provided to demonstrate how areas of need detected in level one of the evaluative tool can be used to develop goals that take into account social, institutional, and individual context. The goal formation discussion demonstrates that generic goals can be modified based on contextual elements such as the current online practices of youth, the specific age groups the virtual learning lab will serve, or the establishment of an organizational hierarchy for library and partner staff. All such factors will influence a library's goals and the chosen mechanisms for measurement and evaluation.

5.2 Conclusions Drawn by Results

This study identifies inconsistencies in how opportunities for informal learning are integrated into the planning processes of current virtual learning labs. This inconsistency is met with an evaluative approach that clarifies the mission of learning labs and the contextual factors that influence the planning process.

This study contributes to the understanding of how to build virtual learning labs by formulating the mission of learning labs as the foundation for evaluative approach. Two levels of evaluation are provided in the form of: (1) a needs assessment to address contextual differences in library communities and organizational structure; and, (2) a goal formation guide that demonstrates how the learning lab mission and contextual factors can shape the development of goals for the virtual space.

5.3 Recommendations for Further Research

The current study represents a first effort to translate theory into practice in the context of virtual learning labs. Through an evaluative approach to planning, learning labs can efficiently and effectively compare efforts and share best practices. This exploratory study provides the foundation for a framework that can equip learning institutions with the direction needed to create virtual informal learning environments supported by research and shaped by their community. This section discusses recommendations for further research that will further the current research and contribute to a comprehensive understanding of how virtual learning labs can best serve youth.

5.3.1 Further developing categories of provided framework

The current framework provides a sketch of an evaluative approach to learning lab planning and implementation and relies heavily on the information gathered from four learning lab sites. Further research could first extend an understanding of virtual space initiatives by surveying a wider selection of learning labs as well as libraries embarking on their own virtual space endeavors. By examining more learning labs, a greater number of contextual influences could be identified and the phases of learning lab development could be explored. Specific phenomena like the varying nature of community partnerships or the role of youth and community advisory boards could also be examined based on their impact on the goal development level of the current framework. By examining more organizations, scholars and practitioners in the field will be able to better understand how to use the evaluative framework for their own planning efforts.

5.3.2 Mechanisms for evaluation

Once goals are formed that appropriately reflect the mission of a learning lab, mechanisms for evaluation can be chosen. As done in evaluations of community-based programming, a framework level could be provided that demonstrates how evaluative tools can be used to measure formulated goals. Such mechanisms can be drafted to gather both qualitative and quantitative data that creates different indicators of progress towards a particular goal. Research on community based evaluation by Beirle (1998), for example, could be combined with the presented goal formation tools in the current study to guide libraries on selecting mechanisms of collecting data and evaluating the progress of chosen goals. Using quantitative analysis when evaluating virtual space introduces the idea of collecting e-metrics as a means of evaluating goals (Bertot, Snead, Jaeger, & McClure, 2006).

5.3.3 System centered evaluation

System-centered evaluation is found to be one needed level of a learning lab framework. System-level analysis refers to an evaluation of the engineering, processing, and content of the technology as well as the user-centered level of evaluation that focuses on interface (Saracevic & Covi, 2001). A focus on the functionality of social media technology must be addressed in each of these areas, as they present a technological structure different from those included in systems such as digital libraries.

At the intersection of a system-centered approach and the organizational and cultural evaluation of the current research is a focus on the social interactions that take place within specific virtual platforms. The work of boyd (2011) discusses the features of social media networks that are related to the interactions within a virtual

community. Use of such literature could provide the foundation for a level of evaluation that is not addressed in the existing library evaluation approaches of outputs, performance, services, and outcomes. Literature on virtual communities and how they can be analyzed can also be used to provide a level of the framework dedicated to outlining various considerations in choosing the appropriate virtual tools and platforms that fit the goals of a virtual learning lab.

5.3.4 Learning Outcomes

This study addresses the gap between new media literacy investigations and program formation in public libraries. This study relies on previous research findings that youth participation in informal learning communities provides opportunities for new media literacy development (Ito et al., 2009; Jenkins et al., 2006). There remains a gap in research, however, regarding how new media literacies can be measured as learning outcomes of programs such as library learning labs. In addition to understanding how popular a program is through outputs such as the number of logins to a virtual space, an outcome based perspective can help to clarify how learning is defined in a space, which youth are learning, and how opportunities for learning may be improved. In recent years, learning outcomes have been incorporated into library assessment strategies in order to determine the success of various educationally motivated programs (Amosford, 2007; Hooper-Greenhill, 2004; Rabine & Cardwell, 2000). Further research could identify specific learning outcomes related to the goals generated in this study and determine how such outcomes can be observed and measured in a virtual learning space. Such investigation would provide libraries a tool for approaching outcome-based assessment for virtual library spaces. This type of

research would also contribute to better understanding of why new media literacy education is important and how related literacies can be taught and measured.

Further exploration into these areas of study will lead to a comprehensive evaluative framework for virtual learning labs. Such a framework will promote the use of evidence-based programming in public libraries and support the efforts of public libraries to provide virtual spaces that attract youth and create opportunities for engagement in a dynamic learning community.

In order to effectively serve youth, learning institutions must meet youth where they are and adapt to changing interests of their community. Virtual space has become not only a social environment for youth, but also a critical space for learning. Virtual learning labs represent an effort to create a consistent space online supported by the library community. In order to create and sustain such a dynamic environment, libraries must understand their mission, goals, and definition of success during the planning, implementation, and evaluation phases of development. This research provides public libraries with a mission and direction for understanding how their organization can pursue a space that meets the evolving needs of youth. Many facets of the framework, however, remain unexplored. Those in the field of information and library sciences, new media literacy, and education are now faced with an opportunity to use this evaluative initiative to further explore virtual learning lab development. The interactive and dynamic characteristics of social media are what make virtual learning labs a valuable informal learning tool as well as a complicated object for evaluation. This study serves as a call to action and a foundation for further exploration.

Glossary

Formative Evaluation – “An evaluation activity carried out in parallel with the development phases” (Fuhr, 2007, p. 36).

Informal Learning Environment – Spaces characterized by Jenkin’s “participatory culture” or Ito’s “network public” where friendships and interests drive involvement in hanging out, messing around, and geeking out.

Learning Lab – Library spaces “intended to engage middle- and high-school youth in mentor-led, interest-based, youth-centered, collaborative learning using digital and traditional media” (Institute of Library and Museum Services, n.d.). YOUmedia Chicago serves as the model learning lab with a physical and virtual space for youth engagement.

New Media – Convergence of traditional media with digital media, including interactive media that incorporates social communication (Ito et al., 2008; Jenkins et al., 2006).

New Media Literacy- refers to a fusion of traditional reading and writing concepts as well as technological, social, and cultural competencies (Clark and Visser, 2011, p. 28). This following are core literacies as defined by Jenkins et al. (2006):

Play: “The capacity to experiment with one’s surroundings as a form of problem solving” (p. 22)

Simulation: “The ability to interpret and construct dynamic models of real world processes.” (p. 25)

Performance: “The ability to adopt alternative identities for the purpose of improvisation and discovery” (p. 28)

Appropriation: “The ability to meaningfully sample and remix media content” (p. 32)

Distributed cognition: “The ability to interact meaningfully with tools that expand our mental capacities” (p. 37)

Collective intelligence: “The ability to pool knowledge and compare notes with others towards a common goal” (p. 39)

Judgment: “The ability to evaluate the reliability and credibility of different information sources” (p. 43)

Transmedia navigation: “The ability to deal with the flow of stories and information across multiple modalities” (p. 46)

Networking: “The ability to search for, synthesize, and disseminate information” (p. 49)

Negotiation: “the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative sets of norms” (p. 52)

Participatory Culture – “a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices” (Jenkins, 2006, p. 3).

Peer based learning - instances of learning that are centered on youth peer-based interaction, in which the agenda is not defined by parents and teachers (Ito, 2009, p. 21)

Social media - “the set of new media that enable social interaction between participants, often through the sharing of media,” specifically as it is found in interactive online environments (Ito et al., 2009, p. 28).

Virtual Space – This refers to the virtual space of the learning lab programs, which is intended to be a space for sharing and collaboration that is fueled by social media efforts.

Youth – Middle and high school age people (roughly ages 11-18), who are the envisioned audience of the learning labs.

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