INFORMAL LEARNING WITH TECHNOLOGY:
A NARRATIVE OF SELF-DETERMINED LEARNING

by

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Abstract

Much education is formalized and revolves around satisfying an externally mandated curriculum. Informal, self-determined learning allows individuals to select a more democratic learner-centered approach to education; one that may matter more to the learner than to any other external person or institution. The underlying premise of this research is that informal, self-determined learning through technology is capable of opening up different avenues of learning. Through a narrative methodology and a conceptual framework identified as Full Access Learning (FUAL), learning – and education in general – is opened up and personalized in different ways, informally and often with technology. Examples of self-determined learning with technology are explored, including the author’s own lived experience of constructing learning through digital and informal means. Such self-determined and informal learning, through FUAL, can prove to be a space where diverse and personal educational initiatives are encouraged and modernized in an effort to synchronize with the current societal technological norms of the 21st century. A broader goal of this research, however, is to provide further evidence for learners who may not connect well with more formal and traditional learning approaches, such as schooling, and to add to the argument that different ways of learning can help individuals thrive. Learning that is personal and meaningful can create individual growth opportunities. What transpires from personal growth can have multiple ripple effects. As technology continues to evolve and becomes
more ubiquitous, different ways of learning can occur. The challenge is to discover and engage in multiple ways of self-determined learning, as each learner determines appropriate.
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FUAL Framework

The Learner Centered Element

Self
Coco Kaleel
Sylvia “Super-Awesome” Todd
Urban Teens

The Democratic Element

Self
Coco Kaleel
Sylvia “Super-Awesome” Todd
Urban Teens

The Element of Negotiation

Self
Coco Kaleel
Sylvia “Super-Awesome” Todd
Urban Teens

The Element of Trust and Respect

Self
Coco Kaleel
Sylvia “Super-Awesome” Todd
Chapter 1

Introduction

Traditionally, formal learning has played such a large role in education that many individuals assume that learning happens only within formal school settings. However, in today’s world, with people becoming increasingly connected through technology and the Internet, different ways of learning can be pursued, shared and celebrated. In fact, informal learning opportunities are all around us and, with technology, such opportunities are literally at our fingertips. This narrative research investigates how technologies such as the Internet, social networks and communication tools (cell phones and video conferencing platforms) enable self-determined learning.

As a self-determined learner who is comfortable with using technology to connect, explore and learn, my experiences indicate that valuable learning can be derived from informal learning situations outside of formal schooling. I situate myself in an informal learning environment, through technology, that enables me to pursue relevant, self-determined and interesting topics. I engage in numerous online forums to learn about and discuss topics of interest. I download books and articles by various authors and critically analyze discussions and debates to solidify my own understandings. The unique part of my learning is that, through digital experiences, I learn informally, outside of formal schooling, utilizing a self-determined approach. I believe that this study contributes significantly to the further exploration of self-determined ways of learning, informally, through technology – an area that continues to be under-explored.
This narrative study will help me explore and better understand ways that learners can pursue topics of interest that are personally relevant; to determine their own learning outside of formal education, through technology. I outline how I and others like me utilize technology to learn in informal ways and pursue a personalized “curriculum”. Learning in informal ways can benefit those who may not fully connect with a formal curriculum. Following a self-determined curriculum can help foster innovation and creativity in an effort to pursue personal goals.

Research Questions

Being a millennial and using technology to access, share and analyze information with a wide range of people around the world has helped me gain insight into learning in different ways, including informal and self-determined. Reading and studying educational scholars such as Holt (1967), Foucault (1977) and Freire (2000) have encouraged me to re-examine deceptively simple questions about teaching and learning, such as: What are some of the informal, self-determined and democratic ways of learning with technology that individuals can utilize? Also, how might self-determined learning help spur creativity and innovation? This study aims to discover possible answers to these questions by looking at my own informal learning experiences through a narrative approach.

Definitions of Terms

At this point, to eliminate confusion, it is important that I clarify my use of terms regarding core ideas that will be discussed throughout this research study; formal learning, informal learning and the connection between technology and self-determined learning. Throughout this research, “formal learning,” “schooling,” and “mainstream schooling” are
used interchangeably and refer to learning that happens within schools. They involve teachers teaching students a prescribed curriculum mandated by a school board. In these settings, various forms of evaluations are fairly common, usually through some form of testing, where learners receive grades to determine how well they are progressing. “Informal learning” and “self-determined learning” are also considered to be interchangeable terms.

Informal learning refers to learning that happens outside formal school settings and can include the home, outdoors and other places and spaces a learner occupies, including digital or virtual communities. This is where “self-determined” learning mainly arises. Self-determined learning extends from self-determination theory (Deci & Ryan, 1985) and refers to any activity pursued by learners through their own willingness and intrinsic motivation (Deci & Ryan, 1991). Included in this definition is the notion that individual learners have a great deal of control over their unique learning experiences. This is, in fact, a “learner-centered” (Holt, 1967) democratic approach to education that opens learning in ways that individuals can control. Progress is personal, as is any evaluation, unless otherwise agreed to by the learner. Much of informal learning usually occurs in later stages of life when we decide to learn something more out of personal motivation and interest rather than from any outside forces. Adult education comes to mind as learning that occurs in situations that has a deeper connection with individual learners and is, on many occasions, pursued out of personal curiosity and motivation. Again, often, informal learning occurs more for the knowledge gained rather than the grade earned. A learner-centered approach to education has traditionally been ignored through many formal institutions.
Inspiration

I am passionate about learner-centered democratic learning because I witness and experience it daily. As a high school occasional teacher, I have the opportunity to visit many schools. One specific experience really opened my eyes toward democratic learning principles – a unique public alternative school based around democratic, learner-centered ideals (Holt, 1967). This school focuses and encourages their students to pursue their own interests and learning. The school does not give out grades, does not have report cards and does not have any scheduled classes; outside of classes the students vote to have or the courses they want to participate in (and sometimes even run themselves). Students at this school are free to do as they wish; all day, every day, in a safe and encouraging environment. My role as an adult is to help students follow their own interests and nurture each student independently in an effort to help these students venture along their intended direction. I make suggestions and build relationships with the students in an effort to promote each students' passion, curiosity and creativity – independently. If I am knowledgeable about a topic, I am able to share resources or help a student problem solve and better understand what it is they are trying to learn. If a student is not interested in sharing or discussing the task, (s)he is free to have his or her own space until (s)he decides or requests further assistance. Students and staff at this school really follow what Eisner (1991) shares, when he points out that “the process of working on a problem yields its own intrinsically valuable rewards and…these rewards are as important as the outcomes” (p. 47). In this educational setting, students are free to accept or reject my assistance, suggestions or guidance. Students have a voice and choice and, together, they make this learning community a more democratic learning centre. This educative practice may seem out of the ordinary, but it works for these
self-determined learners and, having this experience, inspires and helps me reflect on my own informal learning trajectory.

**Background**

It took me a long time to realize and understand that “goals are not stable targets at which you aim, but directions towards which you travel” (Eisner, 1991, p. 47). Like many others, I have experienced formal education. It wasn't until recently, as an young adult, that I realized I had to, as Ayers and Miller (1998) describe, "reconceptualize" (p. 146) my education and start to develop my own internal curriculum from within. Through informal learning and with the aid of technology, I have been able to self-determine and connect with new learning in my own unique ways. It was only after my formal schooling experience that I had time to contemplate my life and my educational choices. I came to terms with the fact that I had mindlessly gone through the motions of formal education without really enjoying what I was learning. Much formal schooling for me was mundane and easy, I didn't enjoy it, I didn't hate it. Looking back, I didn't realize I had a choice and, so, I simply went through the motions of formal education.

**An Informal Learning Session with Technology**

To appreciate how my informal and self-determined learning system works for me, I will outline a typical learning session from a journal I wrote describing and detailing my process.

It is Saturday afternoon and I am sitting in one of my favourite places; a local coffee shop. The smell of freshly ground espresso and the clicking, banging and noise of the LaSpaziale espresso machine makes me feel warm inside.
Next to me is my freshly poured shot of espresso, this is my happy place – it is also the place I do my best learning. I am connected to my own personal Wi-Fi network supplied by my cell phone, tapping away on a Bluetooth and magnetically connected keyboard, working within "the cloud." The cloud is my preferred way to keep pace, organize, collect and progress through my own learning agenda. With all this technology and my own interests, I could spend hours sitting here diving into one topic after another – and I often do. Would this have been possible 10 years ago? Would I be able to be as flexible, free and open with my work, my life and my learning without the aid of these various technologies working in sync with each other? These questions constantly keep circulating in my head. The ability that technology brings in terms of connecting with information and people especially fascinates me. And so, with technology and my own internal motivation, I create my own cohort of passionate learners who are equally dedicated to learning around specific topics - and I feel as though I can't stop learning this way. (Field notes, November, 2013)

On my own, and informally, I slowly began to develop an appreciation for computers and technology and, as time progressed, this morphed specifically into the field of e-commerce. I always had an affinity for entrepreneurship and, as my appreciation for computers grew, it was only natural to blend the two together. This is where most of my interest lies and I spend a great deal of time self-determining and informally learning within this realm. I have never been formally taught anything about e-commerce; I have no formal credentials and I don't care to pursue any e-commerce learning in any formal manner. The
pleasure, the fun, the excitement and the challenge is with teaching myself the content, in my own way, for my own reasons. This is exciting because it represents the first time in my life that I enjoy what I am learning, as I put forth my energy in an effort to learn and experiment in a rapidly expanding field. When I am engaged in relevant and meaningful content, I feel liberated and free to direct my own learning. I engage in education as Prensky (1997) describes:

Education is getting prepared for the future – their future. It begins with stuff they know from all their connections to the world and its people – from television, YouTube, the Internet, IM, chat, social networking – and then lets them follow their own interests, learning things only as they become useful, sharing their views with each other along the way. More than anything else, kids today want their education to be, and feel, meaningful, worthwhile, and relevant to the future. To them, facts, explanations, tools, and reasoning are worth learning only in so far as they support the students’ own, personal goals. (p. 1)

I connect with people who are knowledgeable and who want to share their knowledge. Through technology such as Skype, Facebook messaging and Slack, I am able to meet, speak and learn with experts in the field; people who are actively engaged in what I intend to learn. This is exactly how I spend most of my time; creating my own educational agenda, one step at a time. Building my knowledge in areas I am passionate about helps me expand and explore my interests – on my own time and in my own way with people I choose to learn with. Not only do I gain knowledge, I enjoy the process; I am interested and I am engaged.
I spent most of my time online reading articles, forum discussions and experimenting. I read many "how to" articles in an effort to gain enough confidence to take my learning to the next level. I enjoy tinkering and experimenting with the tools that help e-commerce veterans become successful. These tools include market analysis research tools, traffic analyzers, traffic promotion tools, and market testing tools, as well as supply and shipping platforms, and apps that help make projects easier to facilitate.

My pivotal moment came when I realized the knowledge I have been building up through my experimenting was, in fact, helping me become an expert in the field. I started to understand e-commerce language; I could answer questions people had in online communities and forums; I moved from being a novice in the e-commerce field to an expert – on my own terms and in my own time. Looking back, my practice of determining my own learning and connecting with others online was more than just a hobby. I was gaining valuable and critical knowledge that was needed in order to play in this field.

**A Digital Starting Point**

I curate (through digital apps including Flipboard and Reddit), my favourite subjects and topics. Many of my most exciting topics and other content areas are collected through groups on reddit.com - the self described "front page of the internet" (Kharpal 2016). As I peruse my specific subreddits – online communities of dedicated people from around the world sharing knowledge and information on very specific topics - I am engrossed in an exercise I highly appreciate and gain valuable insights from. I develop the interesting and specific knowledge I seek while, at the same time, I also dive a little deeper. Through the various comments and conversations that erupt around posts, I closely study and follow who is responding. When certain users repeatedly respond in ways I gain significant insight from,
I make a concerted effort to "add them to my list." What I mean by this is that I create a
digital list of users and community members who I intend to contact through private
messages in an effort to initiate a more focused approach for communication. While most of
my involvement with reddit subreddits is through lurking in my favourite subreddits – a
practice and way of engagement I feel most comfortable with - it is not my exclusive way to
participate. Admittedly, I rarely post; instead, I prefer to “private message” individuals. It
feels more personal and direct. Looking back, it also affords me the level of privacy I seek.

Reddit is an important part of my learning because it combines passionate learning
through lived experiences that are personally shared with others through technology. “When
digital] tribes gather in the same place, the opportunities for mutual inspiration can become
intense” (Robinson, 2009, p. 121). Also, because I curate technology around specific content
I am interested in, I can easily sift through relevant, interesting and inspiring information and
content. By learning this way - combining my own interests and using technology to
facilitate my own learning agenda - I feel as though I am in my element because, “when we
are in our element, we feel we are doing what we are meant to be doing and being who we’re
meant to be” (Robinson, 2009, p. 90). As I connect with others through Reddit, I feel I can
finally learn in my own meaningful way. I can delve as deeply and widely into any topic as I
choose, and it feels extremely liberating. I never thought informal, self-determined learning
could feel this right.

**Multiple Fields of Perception Through New Learning Pathways**

The above Reddit example is just a snippet of how I learn in my own way for my own
reasons, guided by my own determination and aided with technology. I constantly shift my
focus and approach to align with my interest or intended goal. For example, I find other
people's opinions and comments on subjects interesting and informative and, so, I enjoy reading the comments section of online articles as much as reading the articles themselves. This offers me a chance to critically focus, analyze and dissect points from multiple perspectives. I am curious and value other people's opinions. How others interpret issues helps me further understand and solidify my own ideas and knowledge. As Greene (1995) suggests, “from particular situated locations, we open ourselves to fields of perception” (p.73). I often seek many different angles on subject matter because I understand that, even though I have one outlook on a subject, it is important that I grasp and understand alternate opinions and viewpoints from many angles. This is a way for me to be able to critically analyze and assess information in an effort to differentiate my knowledge. I effectively create a better, overall balanced viewpoint while, at the same time, “filling in the gaps” through other people’s comments, opinions and knowledge.

My practice of reading comments on webpages is also a way of acknowledging (for myself) my informal learning patterns with technology. If my interest in another user is peaked – often through a profound and informative comment that sparks my interest or teaches me something new - I follow up in an effort to establish a new learning partner. This takes researching skills. Exploring a profile and/or even Googling to obtain further information about who a particular person is can lead to finding a person with significant expertise and knowledge in specific content areas. For me, this builds credibility. Further credibility is also shown if, for example, a person has a blog or shares similar thoughts on other social webpages or digital social networks. The more active a user is, the more I learn about them and the easier it is for me to decide if I will pursue connecting with them. This is
yet another avenue and example of how I use technology to help enable self-determined learning for myself.

I follow this less restrictive, open learning motto as I mix and match different ways of learning. I learn informally and particularly with technology through different platforms – to connect different sources of information in an effort to gain knowledge, opportunities and experiences. I choose content that captures my attention in authentic and meaningful ways. I shape my learning in ways that make sense and are appropriate to my life. “As computers spread throughout society and the web becomes still richer with tools and information, education should move beyond the lockstep of required courses and basic skills" (Collins & Halverson, 2009, p. 44). Looking back and analyzing how I learn with technology, I utilize tools such as Google Drive and, more recently, Microsoft OneNote to curate and collect my thoughts in an effort to learn through different and personally meaningful experiences. What I choose to learn is important for me - the learner - and I find it essential to use technology to keep my pace and flow. My digital notes are there to reference and use as often as I need or want. Returning to my digital collection of notes is a great way to reflect on information and to look at my findings and interests through fresh eyes. My digital notes are lined with information I build my knowledge around as I continue learning through an informal self-determined approach with technology.

**Learning in New Ways**

I find it almost magical how technology can be used to gain such intense insight into virtually any topic of discussion and how it can also be used to connect individuals to specific topics each contributor feels equally passionate about. Learning through an informal self-determined manner sets me in control of my own learning direction; spurred through my
own will and with the aid of technology. When I learn in this way, it makes me feel as if the world is definitely a smaller and more connected place. "From online content in the form of e-books, podcasts, streamed videos, and satellite maps to participatory environments such as social networking, wikis, and alternate reality worlds, technology-based learning continues to open new learning pathways" (Bonk, 2008). I continue to explore new learning pathways as technology permits - it is one of my passions. Learning through informal and technologically infused ways helps me critically assess, from a constantly changing vantage point, where I can create new learning pathways. This study will explore how, through informal learning and technology, there is an ever-evolving combination of new ways to learn with and from. Opening up new learning pathways and encouraging learners to explore different routes may contribute significantly to a learners’ own future in unexpected ways.

I will further explore how I, and others like me, continue to select learning in different ways that are appropriate for our own lives and interests. Some learning routes are more unconventional than others, such as learning through social networks like Reddit, maintaining digital archives of interests with tools like OneNote and cloud drives, or connecting with others through Skype. But, what remains essential is that all these digital and informal instances combine to create an ever increasing learning experience that I continue to build. And, as stated above, my own learning may not coincide with what others perceive as valuable knowledge but, regardless, it is valuable and significant in my own life. As Ito and colleagues share;

The primary driver of participation for interest-driven activity is a sense of personal affinity, passion, and engagement. Learning in this mode is generally knowledge and expertise-driven, and evaluated by the metrics internal to the
specific interest group [or individual], which can often be subcultural or quite different from what is valued by local peers or teachers. For example, skateboarders, rap artists, and competitive eSports players have highly engaged forms of achievement and learning that are often at odds with what most same-aged peers and schools value. (Ito et al., 2013, p. 64)

Informal, self-determined and technology based learning enables me to free myself from an imposed curriculum that may not synchronize well with a curriculum I set for myself. As Ajodhia-Andrews (2011) shares, “I understood that my voice was recognized only if I repeated knowledge either from a textbook or from what the teacher said” (p. 114). This is how I felt as a student in mainstream school; I didn't know, understand or appreciate informal learning or even the fact that what I choose to do with technology is, in fact, learning as well - just in different ways and for my own purposes.

Pereira (2010) outlines three items all learners seek: “to feel respected, to feel their voices are heard, and to be treated with kindness” (p. 91). A curriculum I set for myself matches these criteria and is much more interesting, self-fulfilling and intense than any curriculum that is imposed by an external source, no matter how well-intentioned. As I continue to self-determine my own educational agenda, I understand Eisner (1991), when he shares that, “not only cannot all outcomes be measured, they frequently cannot be predicted. When humans work on tasks, they almost always learn more and less than what was intended” (p.46). Most personal and meaningful learning opportunities naturally follow this rhythm. It has for me, and I argue that any type of curriculum that comes from the learner has these same elements infused into the process. Over the years, in a quest to formalize and constantly rank and measure, especially in education, we have forgotten these very important
fundamental ideals. Learning is often fun, it helps us grow, it involves passion, it develops confidence, it brings people together and it has unintended beginnings and endings – especially and specifically when it is a learner-centered and democratic process. This is the type of learning I have been able to experience through informally self-determining my own educational agenda with technology. For me, through this approach, learning happens daily but is not always recorded, or formally acknowledged as "learning." But, living is learning and, every day, whether it is recorded or not, we learn as each day brings about a new challenge in life. Holt (1967) states that “the person who really needs to know something does not need to be told many times, drilled, [or] tested” (p. 292). This is the mantra I follow in my own life.

Thus, in this study, I examine ways of opening up learning beyond traditional formal schooling. I seek to understand how self-determined learners gain knowledge in their own ways. And, how technology can help in the learning process. By examining my own informal learning patterns and those of other self-determined learners who publicly share their own learning patterns with technology, I provide further evidence of authentic learning in self-determined ways, outside traditional schooling, and with technology.
Chapter 2

A Brief History of Formal Schooling

There are many differences between education and schooling. We assume schools are educative places. For many people though, schools have been about violence and assimilation – as an extreme example, just look at the residential schools for Aboriginal children. The challenge has been to have ‘education’ happen in ‘schools’, but, we have built schools, borrowing the structures from early factories in a way that made and makes them more about rote learning, credentialing, job readiness and enough literacy to enter the work force. These factors all contribute to the many competing agendas about what schools are supposed to do in a democracy set in a capitalist framework.

Consequently, over the years, formal schooling has continued to become intensely concerned with learning as a function of credentialed education (Livingstone, 2004). This idea conforms dramatically to the purpose of learning that many mainstream schools adopt, one that focuses heavily on pursuing an economic agenda through credentialing that is geared toward fulfilling future economic roles in society. However, others may pursue learning for different purposes. In A Place Called School, John Goodlad (1984), identified four main purposes of education. These purposes have been variously identified as a need for well-developed social skills, an opportunity for gainful employment, the pursuit of knowledge as an end in itself, and an understanding and practice of what it means to be a good citizen.

It is important to keep in mind that formal schooling has always been and is a contested field. Formal schooling serves many purposes – some goals quite emancipatory – to develop citizens, create workers and increase literacy to name just three. This further
signals the complex, multiple and often competing interests and demands formal schooling has placed on it. As Eagan (1998) outlines, schools have constantly shifted their emphasis from one focus to the other. The assumption that formal schooling can focus on many competing and often contradictory purposes of education is false. As will become evident by the end of this chapter, formal schooling has fallen into a repeating cycle of reform while some learners become exhausted and utilize outside resources, tools and technology to create their own vision of education – outside traditional schooling.

After the Industrial Revolution, formal learning through mainstream schooling became an organized way to develop skills and opportunities. Mainstream formal schooling was based on an authoritarian Prussian model brought to America and popularized by Horace Mann (Gatto, 2009). It is characterized by,

an age-graded, hierarchically organized, formally constituted system; it often includes compulsory attendance until at least mid-adolescence; and it provides the major credentialing programs to certify one’s knowledge competencies.

(Livingstone, 1999, p. 50)

John Gatto (2009) affirms that formal schooling most often divides “children by subject, by age-grading, by constant rankings on tests” (p. xviii) in an effort to promote competition and distinguish academically between learners. Moreover, he has outspokenly stated how “the ultimate goal implanted in student minds, which replaced the earlier goal of independent livelihoods, was getting a good job” (p. 25). Mainstream schooling is often successful with preparing learners to become workers; especially in bureaucratic institutions. It is an easy transition to switch from one hierarchical institution (such as schooling) to another hierarchical institution (such as large corporations) where individuals follow a familiar
process of completing externally set tasks and following agendas. In this manner, formal schooling represents a powerful microcosm of society, but not one that takes into account learners who do not fill an economic mandate in terms of education.

Formal schooling has been extremely successful at creating a monopoly on learning and education in general. In the 21st century, with advances in technology and the widespread use and penetration that the Internet now offers, the idea of formal schooling with forced curriculum and mandated subjects and content can be re-evaluated. The stranglehold that schooling has enjoyed as the only vehicle to educate masses can be loosened through the use of technology. The ability afforded by the Internet to create relationships and follow personal learning networks is constantly expanding. Through technology, one is able to establish a vigorous, self-imposed curriculum. Through such a self-imposed curriculum, learners can pursue their own passion and can learn via their own curiosity and interest. This self-imposed curriculum can be more meaningful for individuals than the mandated curriculum pursued through formal schooling processes due to the fact that it is the learner who is initiating and guiding his or her learning. As former school teacher John Taylor Gatto (2009) shares,

The best work I did as a teacher always consisted of the same priorities: entering a personal partnership with anybody who showed a determination to become educated, then working inside that partnership to help meet specific targets the student set. (p. 106)

With the use of technology, learners can find other resources (including other learners) where their interests become the focal point of their educative experience and where partnerships and relationships are set that help propel individuals forward – in a more holistic (Miller,
2010) manner – that insists we start from the learner’s own perspective (Ricci, 2012).

Traditional mainstream schooling, because of its rigid nature and vertical structure, struggles to cater to individual learning experiences that put the learners in control of their own learning journeys.

As an occasional teacher in one of the largest school boards in North America, I witness and speak with students regularly about how disengaged many students feel when in school. Many students share with me their frustration and lack of connection with an imposed curriculum. These students share how they feel that their opinions, voices and wishes about how they would like to spend their time fall largely on deaf ears. One reason for these feelings can be attributed to how the school system is strategically set up. John Gatto (2005) clearly describes and understands how school systems are set up to limit learners:

Although teachers do care and do work very, very hard, the institution is psychopathic – it has no conscience. It rings a bell and the young man in the middle of writing a poem must close his notebook and move to a difference cell where he must memorize that humans and monkeys derive from a common ancestor. (p. 22)

From this vivid picture, one can see how many mainstream school board systems are set up to not value student wishes or validate their input. It is the nature of the organization. As part of a school board’s mandate, students focus on following a curriculum set by adults who, for various reasons, set the agenda for ALL young people to know. Much of formal mainstream education focuses on implementing externally mandated material measured through competition. Through this method, it is irrelevant whether individual learners are interested in learning mandated material or not. Individual interest, voice, passion and choice
are rarely considered by schooling systems because it is not about what students care to learn, it is about what school boards and school systems want them to learn or deem necessary to learn. "This is a form of textual authority and discourse produced by pedagogues who are afraid of the future, who are strangled by the past, and who refuse to address the complexity, terror, and possibilities of the present" (Aronowitz & Giroux 1991, p. 52). Individual, learner-centered and democratic approaches to education are too frequently not part of a school board's mandate. Instead, assimilation is often pursued in many formal schooling structures. Also, the reality may very well be that schooling systems may not even know how to address this massive shortfall that exists within the educational sector. One can begin to see that, this may not be the best way forward for learners in an increasingly digitally connected world; one where many forms of learning can be pursued and personally validated and where "it is almost a commonplace that most of what students learn today is not in the classrooms of public schools or, for that matter, in the classrooms of higher education but in electronically generated media spheres" (Giroux, 1999, p. 167).

Given this mindset, is it fair to suggest that learning will continue to metamorphose organically in different ways. One reason for this is because such a rigid learning system is failing many of the very students it proposes to help. Many young learners are stressed out with the constant competition and pressure that mainstream schooling sets up and, sadly, as Gatto (2005) points out, "our teenage suicide rate is the highest in the world" (p. 21). One way to help combat this unfortunate circumstance is to de-pressurize learning by focusing less on competition and the hitting of mandated goals with external verification – items learners state contribute to their school stress (Pope, 2001) and focus instead on personal fulfillment in areas that are individually meaningful. As a result, diversification – learning
different things in different ways for personal reasons – may well be better pursued outside of formal schooling, in informal and self-determined ways. This is because learning follows a more natural rhythm through this route, geared toward personal relevance, individuality and unique circumstances – factors that formal schooling, with its accompanying bureaucracy, has a hard time making room for.

The notion of the purposes of education and, by extension, learning, has been influenced by curriculum theorists such as Vygotsky (1978) with his “zone of proximal development” who, as a social constructivist, promoted the social nature of learning. The emphasis is on learners gaining information from one another through interaction. In this learning environment, not only is content being reinforced, but social skills are also being developed. Formal schooling has adopted, adapted and promoted learning through socialization to coincide with this rationale. Classrooms were structured and teachers still directed development and learning through restricted, yet organized, subject groups and age levels but, recently, sharing and collaboration were encouraged. As a result, schools were not only teaching content and skills to future employable citizens, they also taught learners how to effectively collaborate and work with others in future economic roles; achieving at least two identified purposes of education outlined above.

Along similar lines, Gardner (2011) developed his theory of “multiple intelligences,” with the understanding that different ways of learning arise, are acknowledged and are eventually accepted or rejected depending on the canon of existing educational knowledge. This effectively allowed individuals more freedom to engage with and absorb information in various ways. As “diversity increases pressure on schools to individualize education to address the needs, desires, and abilities of different groups within the population” (Allan &
Halverson, 2009, p. 53), schools needed to formulate ways to help students achieve success within that structure. However, in formal schooling, the idea that children learn in multiple ways has not yet been fully developed and the hierarchical structure has not yet been transformed to accept and encourage methods of teaching and learning that fully include learners’ “multiple intelligences.”

Other educators such as von Humboldt (1854) and Dewey (1938) proposed ways of teaching and learning that embraced a blend of subject matter and methods to support individual learners’ own purposes in pursuing knowledge. “If there is one thing more than another which absolutely requires free activity on the part of the individual, it is precisely education, whose object it is to develop the individual” (von Humboldt, 1854, p. 66). Both von Humboldt and Dewey understood that the pursuit of knowledge and good citizenry can be validated as major purposes of education. Again, an argument can be made for how formal schooling contributes to this ideal, but to what extent does schooling truly encourage the pursuit of knowledge as an end in itself and in terms of developing a good citizenry? How concerted is the effort? And what type of learner does formal schooling benefit most?

As a progressive educator, Dewey (1938) had a philosophy of education that focused on relaxing and reducing the rigidity of teaching and learning that has come to characterize formal schooling. Dewey (1938), along with other progressives and critical constructivists such as Chomsky (2000), Freire (2000) and Giroux (1999), have influenced the structure of formal schooling to include a more integrative approach toward teaching and learning methods; to embrace wisdom and learning derived from both within the school and outside its walls. Chomsky (2000) for example, understands that learning happens in diverse settings,
as learners combine knowledge from different experiences to tie information together in the pursuit of understanding and meaning. And, according to Dewey (1915),

   From the standpoint of the child, the great waste in the school comes from his [sic] inability to utilize the experiences he [sic] gets outside the school in any complete and free way within the school itself; while, on the other hand, he [sic] is unable to apply in daily life what he [sic] is learning at school. This is the isolation of the school – its isolation from life. (p. 67)

   This represents one area of learning where formal schooling falls short. The current trend in formal schooling is to reform curriculum, incorporate different learning styles and re-invent teaching methods in an effort that frequently results in further reforming efforts (Bauman, as discussed in Cooper & White, 2012). This recidivistic cycle does not necessarily reach all of the students all of the time.

   While it is true that many learners have been able to achieve success through formal schooling, and it is evident that formal schooling has been effective for many learners, the reality is that some learners, especially today, are arming themselves with technology and are being driven by differentiated interests. Even though formal schooling is slowly moving toward a more constructivist model that adapts learning from many scenarios and circumstances, the truth remains that curriculum will still be externally set, mandated testing will still be enforced and credentialing will continue to be a priority over the needs and wants of many individual learners (Dewey, 1923; Robinson, 2013). In fact, Dewey (1923) determined that,
These apparent deviations and differences between child and curriculum might be almost indefinitely widened. But we have here sufficiently fundamental divergences: first, the narrow but personal world of the child against the impersonal but infinitely extended world of space and time; second, the unit, the single wholeheartedness of the child’s life, and the specializations and divisions of the curriculum; third, an abstract principle of logical classification and arrangement, and the practical and emotional bonds of child life. (p.7)

The caveat remains then, that formal schooling, in spite of constant reforms, is still a process heavily invested in external verification and adherence to an externally imposed structure with its own prescriptive purpose(s) of education.

Although acknowledging different ways of learning could benefit and support schooling’s efforts to help more individuals become successful at improving their skills, this is not always the case and when it does occur, it tends to occur exclusively through external performance evaluations, such as high stakes testing (MacNeil, 2000). While this approach has helped broaden and deepen learners’ potential employment skills, an identified purpose of education, it may not further other purposes of education.

Formal schooling continues to validate age-segmented, categorized ways of learning, ostensibly to help both teachers and learners pursue knowledge and to perform within social contexts. As such, one can understand how formal schooling came to be designed around age-based cohorts, separate subject curricula, and the verification and validation of knowledge. Thus, a formal learning system bodes well for individuals able to follow directions and absorb information in order to perform well on external evaluations. Atkinson
& Mayo (2010) describe the path many mainstream schools adopt whereby, "students are tested mainly on their ability to recall factual knowledge" (p.63) and where "success is defined as scoring well on tests for that knowledge, most involving testing for discrete, right-or-wrong answers" (p. 63). However, within such a structure, some students find learning difficult. Such rigidity and reliance on a competitive authoritarian structure is unsustainable because there are always individuals and groups of students who wish to challenge this status quo.

I argue for an educational process that shifts the balance of power and control from external sources such as teachers, school boards, state processes and mandated curriculum to a more democratic learner-centered approach that brings the individual to the centre of their own learning goals. As Ivan Illich (1970) describes, “people who submit to the standard of others for the measure of their own personal growth soon apply the same ruler to themselves” (p. 58). So, I advocate for learners to decide the reasons and the means for their education and the methods they will use to pursue their learning. John Taylor Gatto (2005) states that, schools and schooling are increasingly irrelevant to the great enterprises of the planet. No one believes anymore that scientists are trained in science classes or politicians in civics classes or poets in English classes. The truth is that schools don't really teach anything except how to obey orders (p. 21).

While I wouldn't go as far as Gatto in stating that schools are irrelevant and don't teach anything except how to obey orders, it is true that formal schooling can restrict, confine and even limit one's ability to fully follow their interests and pursue passionate topics of their own choosing. This is due to the simple fact that maintaining control over certain knowledge and how it is pursued, as well as knowledge validation, is all part of the formality of
education. This learning route works well for many but also leaves some learners unsatisfied and longing for more. Perhaps, this is what Ivan Illich (1970) meant when he stressed that "we have all learned most of what we know outside school. Pupils do most of their learning without, and often despite, their teachers" (p. 42). As learners gain control of their own learning, how and why we acquire knowledge can be re-evaluated.

Some learners, myself included, react to this and respond by turning to a more progressive learning route to fulfill our own visions of learning. I integrate technology where appropriate and, as time progresses, it is increasingly becoming a bigger part of my learning style. I welcome this open, learner controlled, directed and determined technological approach because I recognize that it enables me to expand my learning in ways I feel help create unique opportunities that help me take ownership of my own education. I have not had the opportunity to learn and pursue my own interests until I was well out of mainstream schooling and realized that I have a voice and choice, and started to take ownership of my own learning. I continue to appreciate and understand that, with the use of technology, more informal approaches to education can be pursued, validated and even mixed and tied in with formal programming.

**Why Informal Learning?**

The learners and their families who challenge formalized schooling are learners who may not thrive in such unforgiving, competitive, and formal learning environments. In fact, there has been a significant push to eliminate many high stakes competitive testing as “high stakes testing has become the most dominant pressure in America’s public schools and is rapidly reshaping teaching practice and curricular contents across the nation” (Ryan & Brown, 2005, p. 355). Also, “high-stakes policies attach reward and punishment contingent
on test scores” and “they have distorting and corrupting consequences” (Ryan & Brown, 2005, p. 369). Canada is no exception to this:

the standards (acceptable & excellence) are determined after the tests are scored. For example, in 2002, the standard of excellence in Grade 6 math was set at 91% – 15% of our Grade 6 students achieved at or above that level. However, if we use the traditionally accepted 80% mark for the standard of excellence, which is used for the Grade 12 diploma exams, 47% of our students achieved excellence. This seems to indicate that the results are being manipulated to make sure the government achieves its 15% (excellence) and 85% (acceptable) standards as well as to ensure that there were no drastic swings in results from year-to-year. (Hampton, 2004, p. 220)

Thus, competitive testing can be one more justification for some to pursue learning in different and authentic ways, which can include informal learning. Additionally, some learners may wish to focus on content not provided through a formal curriculum or may not agree with parts of a curriculum’s mandate altogether, as is the case with Ontario’s new curriculum on sexual health education (Basian, 2015). Again, some learners and their families may not be happy and may decide to pursue other ways of learning. Some learners may prefer to learn with others in multiple age groupings; a limitation in many formal schools. Furthermore, some learners may wish to learn outdoors, while lying down with music, or may choose other personal preferences not possible in traditional, formal classroom settings. This is where informal learning can bridge the gap between formal and informal schooling in order to allow learners to engage with, develop, and experience a curriculum of their own design. Motives and reasons for personalizing learning are as diverse as each of us,
but what remains clear is that not all learners thrive in formal settings; other ways of learning can co-exist and may sometimes be even better suited for certain learners. Learners who direct their own learning through their own interests have an opportunity to break from formal traditional learning routes and learn about topics that are important to the individual in ways that each individual learner decides is appropriate. Many different models of informal learning exist alongside mainstream schooling, including homeschooling, free schooling, experiential learning and self-determined learning, amongst others (Gibbons, 2014).

**Homeschooling**

There are multiple reasons one chooses to homeschool. “In general, pedagogues promote homeschooling because they view public schools as inept and incapable of catering to the specific needs of each child. Ideologues, on the other hand, fault schools for not teaching the conservative social values and fundamentalist religious beliefs that their families espouse at home” (Kapitolik, p. 3). There are also various ways of homeschooling. As Morrison (2016) shares,

Some families practice “schooling-at-home” in which many aspects of conventional public schools are utilized in the home (e.g. textbooks, workbooks, structured/purchased curricula, specific space in the home for learning, chalkboards, homework, etc.). Other families take a much more eclectic approach – perhaps using some purchased curricula or workbooks, but mainly following the needs and desires of each child. (p. 51)

On top of this, various laws are in place that either promote the right to or prohibit against homeschooling; contributing to homeschooling being a difficult or easy option based on
where in the world one lives. For example, British Columbia is among the leading provinces in Canada to condone homeschooling as “homeschooling is an alternative method of teaching offered outside the B.C educational system” (Government of British Columbia, 2016). Homeschooling is among one of the more common ways learners can differentiate their learning to include different and more personal ways of gaining knowledge outside traditional formal school settings.

**Free Schooling**

Among the most famous progressive educational settings is A.S. Neill’s (1960) Summerhill School in England; the epitome of a “free school”. Here, children roam free, establishing, following and maintaining their own curriculum in a democratic setting. Children of all ages are trusted and respected to voice their opinions and concerns and directly help run their facility. In essence, children are “free” to live their lives with as little imposition from adult authority as possible. The role of adults in a space such as this is to comfort, mentor and guide when a child seeks it out. Free schooling facilities are very much about trust and respect among all its users – regardless of age or abilities. Free schooling facilities can be seen as the exact opposite learning space current formal schools represent. Where formal schools enjoy mandated curriculum, control, hierarchy and external testing to validate certain knowledge, free schools have no formal curriculum, distributed control and hierarchy with little to no testing (unless agreed to by the community members themselves – including the learners).


**Experiential Learning**

I am happy to notice the inclusion of more experiential learning experiences within different formal school settings lately. In a time where so much effort is placed on mandated high stakes testing, where learners have little choice but to stay stationary in a desk with little more than paper and pencil materials to work with, a slow return to learning by doing is creeping into classrooms. Getting a chance to stand, walk around and mess with different tools, manipulatives and resources – in essence to experience and experiment – with different equipment, caters to the needs of learners who may learn better visually and kinesthetically.

In my own experience, I have witnessed and have been part of learning courses geared around bike mechanics, yoga classes, robot building and film making. These different experiences allow learners to play with important tools they may need for their future craft and perhaps even interact with respected and knowledgeable people in their field of choice. As one mother stated in a study conducted by Gray and Riley (2013) “We value a spirit of wonder, play, and meaningful connections with others. We seek to experience ‘education’ as a meaningful, experiential, explorative, joyful, passionate life” (p. 8). I believe experiential learning will increasingly play a bigger role in formal education in the years to come as learning institutions recognize the value learning by doing can have for some learners.

**Self-Determined Learning**

Encompassing just about any learning situation one may wish to dive into, self-determined learning puts forth the idea that learning comes first and foremost from an individual learner’s internal desire (Deci & Ryan, 1985) and involves a heavy appetite for independently focused study. This does not mean that learning always or necessarily occurs alone; in fact, much of self-determined learning can and does occur with others. What sets
self-determined learning apart is the emphasis on the individual learner wanting, willing and working to make certain and specific learning connections occur. No curriculum or learning outcome stems from an external source as it is the individual learner who determines the reasons and means of their own education.

An internal motivation and desire is what primarily pushes an individual’s learning agenda forward (Deci & Ryan, 1991). Learning can take on any form and include all experiences an individual is willing to participate in. It is up to the individual learner to create and select desired learning scenarios and seek out other interested learners in an effort to progress down a chosen learning path. Learning can involve and include any other individual as long as each individual is a willing participant. This is where self-determined learning lends itself well toward a democratic learning style. There is no force or coercion to learn but rather invitations and shared experiences. Control rests and sits with each individual learner rather than any external institution or program. With self-determined learning, it is the learner who decides how deep or wide to pursue any particular interest.

It is easy to see how each learning model caters to specific individual needs. While some learners prefer to be formally credentialed and, therefore, follow a more rigid learning approach such as formal schooling, others integrate more informal learning experiences into their lives. The point is, learning through informal means, such as self-determined learning, can be personally satisfying and fulfilling. As Biesta (2006) argues,

If we look at learning in this way, we can say that someone has learned something not when she [sic] is able to copy and reproduce what already existed, but when she [sic] responds to what is unfamiliar, what is different, what challenges, irritates, or even disturbs. Here learning becomes a creation
or an invention, a process of bringing something new into the world: one’s own, unique response. (p. 68)

In this way, self-determined informal learning can be initiated in different ways, bringing together sometimes complex and sometimes simple ideas in an effort to personalize learning.

In terms of learners, I include everyone who is motivated to determine his or her own learning, regardless of ability. I do not arbitrarily restrict self-determined learners to certain age levels, as I believe all individuals are capable of self-determined learning. Further, informal learning includes, but is not limited to, accessing digital information and gaining experience in diverse and unique ways that encourages a personal and meaningful life-long engagement with learning. A learner-centered approach helps achieve these goals. For example, Deci and Ryan (1991) argue how self-determined learning is a learner-centered approach that can encompass all areas of a learner’s life. Also,

In some cases, learners have limited access to education outside the school walls, while in-school learning is too tightly bound by time and place and too often presumes that all students learn at the same pace. New, informal networks can support a more customized learner-centered approach to education. (The Aspen Institute Task Force On Learning and The Internet, 2014, p. 44)

Adopting and integrating informal learning has other benefits beyond the politics outlined above that may entice some to gravitate towards informal learning, including the ability to choose how and when to engage in learning.
Along with Goodlad’s (1984) stated purposes of education outlined above, learning informally can also be based on the pure enjoyment and benefit of knowledge acquisition for its own sake. Informal learners can focus on “a completely customized experience that is learner-centered and democratic” (Ricci, 2012, p. 41). This process affords learners the power to control and direct themselves. It places the power in the hands of the learner. The places and spaces made possible through informal learning open up many options for those who do not fit well with formal schooling parameters and for those who choose to learn differently. Informal learning can even be used in conjunction with formal education, supplementing and even complimenting a formal education. This type of living and learning is synchronous with what Zygmunt Bauman (1997) calls “fluid modernity” and fosters confidence in learning in different ways, within the post-modern times in which we live. As Biesta (2006) argues,

The only thing we can do is to make sure that there are at least opportunities within education to meet and encounter what is different, strange, and other, and also that there are opportunities for our students to really respond, to find their own voice, their own way of speaking. (p. 69)

Often, informal experiences – pursued with the assistance of technology – help achieve such crucial and personally satisfying goals.

Grace Llewellyn (1998) shares her thoughts on learning solely through formal schooling as feeling “flooded by a sense of loss and bitterness - all that time I’d wasted sitting and staring out windows when I could have been out traveling, learning, growing, living” (p. 31). It seems as though many of today's students share at least some of the same uneasiness when it comes to their formal schooling. “The reality for too many youth,” (p.14)
– especially when so many are connected to the rest of the world through technology – "is that they see a shrinking set of options and little guidance towards new kinds of learning opportunity, community contribution, and diverse careers" (Ito et al., 2013, p. 14) through formal schooling alone.

With ideas made popular by individuals such as John Holt (2004), Foucault (1972) and Freire (1998) (among many others), I argue for a re-evaluation of the purpose of education and critique formal schooling systems through a post-modern lens. Who holds the power of knowledge and how is it disseminated and absorbed throughout society? Are there alternatives to the dominant ways of learning that can be beneficial to learners that incorporate the technology now available to us?

With post-modernity as a framework, learning with technology, which is a core idea of how I believe self-determined learning can be achieved, may be understood to be a tool used by learners if, when, and as often as one chooses. Self-determined learning with technology can help learners innovate and create with the possibility of benefiting others. For example, 14-year-old Easton LaChappelle built a robotic arm controlled completely by thoughts and he freely demonstrates how to build your own via YouTube (Chamberlain, 2015). Through innovation and creativity, he cut down the price of a prosthetic limb from $80,000 to $350. This is a remarkable instance of how technology, a self-determined desire to learn and a passion to help can produce creative and innovative ideas that can benefit others. A different example outlines how an 18-year-old recently invented “the best new vegan protein bar” and secured millions in financing (Fox, 2015). This new vegan protein bar has potential benefits for the millions of people who follow a vegan diet. It took a teenager with the will to direct himself to come up with a new, innovative (and healthy) way to help
those with specific dietary needs. These are just two examples of how informal learning and technology, used as a tool, not only helps to achieve these goals but is also a means to distribute and share self-determined successes. “Discovering meaning for yourself as well as discovering satisfying purpose for yourself, is a big part of what education is” (Gatto, 2005, p. 62). Ideas about what education looks like are changing and, for learners who prefer a more learner-centered and democratic approach, technology can play a significant role.

With the power of technology and the Internet, how and why we learn in the 21st century is evolving, and the balance of power can be shifted to allow for more autonomous and self-determined learning to take place. As Freire (1998) states, “there is no right thinking that can be separated from a kind of coherent, lived practice that is capable of reformulating contents and paradigms instead of simply negating what is no longer regarded as relevant” (p. 40). This is true for many learners who may struggle through school while at the same time crave more time to learn personally relevant content through meaningful opportunities. Informal learning and technology can be one way to produce and realize a unique and personal educational agenda.

**Digitally Different Learning**

I am not alone in thinking we are experiencing a paradigm shift in how we might pursue and validate learning for ourselves. One often-cited example is Sudbury Valley School, which employs a learner-centered and democratic approach to schooling, following the ideas of A. S. Neill (1960). Leonard Waks (2012) concurs that education today is experiencing a shift from the ground up as:
networked action challenges professionals – including professional educators
– as the Internet places professional-level capabilities into the hands of
amateurs. Armed with the Internet and Web 2.0 technologies, people can
rapidly learn useful new skills at a high level. (p. 191)

The digitally connected world is creeping into many lives, as uncomfortable as it may
be for some. Understandably, the ideology of learning informally through a self-determined
approach threatens so much of what is accepted about teaching, learning and education in
general; mainly, that "real" learning happens only in school settings, including "all
elementary, secondary, and other schools that people are required by law to attend" (Holt,
2004, p. 19). Despite constant efforts at reforming mainstream educational systems, the truth
is that some students simply do not fit and are actively taking steps to direct learning for
themselves.

As learners find ways to learn that suit their needs, informal opportunities and
experiences start to make more sense. Learners can begin to integrate their own learning
styles and methods into their lives in an effort to form a more balanced approach towards
their educational pursuits. As Alan Thomas and Harriet Pattison (2007) point out,

This reliance on informal learning clearly represents a radical departure from
conventional pedagogy and few from the world of professional education would
accept that such an apparently haphazard and hotchpotch way of learning could allow
children to satisfactorily develop their intellectual potential. (p. 2)

However, this is exactly what is occurring, especially today, in an era with so many
opportunities to self-determine and direct in digital ways.
Young learners today are "digital natives" (Prensky, 2012) and have grown up with technology all around them. As Prensky goes on to describe,

Digital natives are the people born into the digital world who (while they may not know everything about it) are very comfortable with its use and consider it a foundational part of their lives. (p. 203)

For this new generation, the industrial age is part of their history books. What is needed is the freedom to focus more intensely with and by our own internal curiosity, and to explore and develop from within – in ways each of us desire individually. As Freire (1998) states "if my curiosity is domesticated, I may obtain a level of mechanical memorization of certain aspects of things but never a real grasp or an essential knowledge of the object" (p. 80). A willingness to release curiosity and control in education can bring with it a population of widely diversified learners.

Young learners today are part of the "knowledge economy" (Powell & Snellman, 2004); a way of living that actively encourages different and diverse skills that bridge all learning in an effort to enhance the ability to problem solve, critically analyze information, research and bring a unique perspective to any given situation. As Chomsky (2000) encourages, “true learning takes place when students are invited to discover for themselves” (p. 28) and become active participants in the world around them. Informal learning and technology brings learners closer to this reality as the opportunity to link and connect with specific resources and people around focused interests helps to propel ideas and efforts to learn. To illustrate this, Freire (1998) speaks about his grandchildren and how they "are able to tell me about their curiosity and how it has been inspired by the computer, which for them is a normal part of living [and learning]" (p. 82). For many digital learners, formal
schooling’s ability to fence-off and segregate certain content and knowledge is less effective because "students [today] don't learn by a mere transfer of knowledge, consumed through rote memorization and later regurgitated" (Chomsky 2000, p. 21). Instead, including different, more informal ways of learning is commonplace.

In the 21st century, with such rapid advancements in computers and technology and the global network of the Internet penetrating every aspect of society, knowledge has proliferated in terms of scope and reach. Knowledge has shifted from the few to the many due, in part, to the Internet and to the benefits accruing from increased access and ease of use. "The notion that learning falls within the purview of the State, as the brain or mind of society will become more and more outdated with the increasing strength of the opposing principle" (Lyotard 1984, p. 5). The opposing principle includes learners who prefer to self-determine even part of their education in ways that suit their own styles and preferences. It is important to be able to connect with knowledge and networks that help one excel in an area of personal interest. Today, more often than not, technology and the proliferation of information through the internet plays a major factor in this process. To illustrate this phenomenon,

The shifting boundaries related to the increasing influence of the electronic mass media and information technology, the changing nature of class and social formations in post-industrialized capitalist societies, and the growing transgression of boundaries between life and art, high and popular culture, and image and reality. (Aronowitz & Giroux 1991, p. 59)

All contribute to the re-evaluation of knowledge acquisition, authority and education in general.
The truth of the matter is, each individual learner is able to be in charge of directing his or her own learning and to include or exclude aspects, concepts and content as (s)he sees fit. "This is an especially important consideration for those students in the public schools who know that the truth of their lives and experiences is omitted from the curriculum" (Aronowitz & Giroux 1991, p. 52). An informal and digitally different learning route can open up new ways of accomplishing, knowing and excelling in one's own way. Diversification and acceptance of multiple learning routes is an important step and also works to broaden and further legitimize all learning; which is important from an equity standpoint, as technology becomes more ubiquitous.

**Technology and Self-Determined Learning**

Today, in this post-modern era, participating and gaining informal learning experiences is easier to pursue with technology. Technology (in all its various forms) offers a plethora of information and creates the ability to connect with others who may be equally interested and engaged for their own learning purposes. Self-determined learners can utilize this effect to negotiate and lead their own learning through any given means. Technology and social networking has opened up communication worldwide, crossing time zones and language barriers (Fini, 2009). Technology, in combination with face-to-face informal learning, may help learners thrive and discover learning that is personally meaningful in new, innovative and creative ways. For example, one 13-year-old boy illustrates how self-determined informal learning with technology can contribute to the development of creativity through his invention of a braille printer. This young creative learner has won funding from Intel to produce his innovative low cost invention (Banerjee, 2014). This highlights how informal self-determined learning can comprise personal and meaningful learning
experiences for very diverse purposes. These experiences do not necessarily follow prescribed external curricula (although they can, and sometimes do, combine with formal processes); however, what is achieved is the preservation of the voice and choice of a learner. Technology can help this process.

Today, informal learning experiences often occur through technology in the form of blogs, wikis, forums and social networks (Corneli & Mikroyannidis, 2011). Many learners use technology not only to augment and enhance their formal schooling or help with homework assignments but also as a multi-tool learning environment to help learn through informal experiences; to determine their own learning in independent and unique ways. In fact, the prominence that formal schooling has enjoyed in the past has been moderated through technology which, in turn, has helped create many informal learning opportunities. This shift emphasizes the idea that “multi-tool learning environments are gaining momentum” (Fini, 2009, p. 1).

Integration of multiple and diverse learning environments may represent various points of access to information that help create unique learning experiences. This practice enables independent self-determined learners to differentiate their learning and rely less on formal, externally set curricula. As previously mentioned, formal and externally set curricula may lack in certain areas of specific interest or may be irrelevant for learners who may want to explore content not currently covered in formal learning environments. For self-determined learners, informal learning with technology can be one way to pursue learning at their own pace, through their own means, in their own time and in their own ways. Sir Ken Robinson (2009) shares how, “at the age of two, Terence Tao taught himself to read by watching Sesame Street” (p. 100). Now, obviously, we don’t all do this, but that is precisely
the point. Personally developed learning experiences help reinforce connections that learners make for themselves. According to John Holt (1967), connected and personal learning experiences are more important than those provided by an external experience.

Connected Learning is realized when a young person is able to build the skills and knowledge to pursue a personal interest or passion in an environment that provides support from friends and caring adults…. (Institute of Museum and Library Services, 2014, p. 4)

Individuals who direct their own learning have unique opportunities to learn in ways congruent with their preferred learning styles. This helps learners better balance their educational load, which may free them from some formal schooling or even supplement their education in their own ways. Often, in today's digitally focused world, learning that centers around informal and determined approaches connects – even in minute ways – with technology. Throughout the process, though, what is crucial is that the learners control the means and purpose of their own learning while concentrating on "becom[ing] multiply literate and focus[ing] on diverse spheres of learning" (Giroux 1999, p. 167).

So, suffice it to say, naturally, we all learn differently, but are steered into a streamlined model of learning that may not be suitable for particular learners. By opening up learning to include more informal ways of gaining knowledge – specific knowledge that learners may be looking to acquire but may not have access to through strictly formal means – more learning can be acknowledged and seen as a worthwhile endeavor. For me, learning happens mainly through technology in informal places and spaces. Some learners may not have adequate access to technology either because it is cost prohibitive or because of spotty or no internet access in their locales. For these learners, learning with technology may be
difficult. However, learning in different and even informal means is still a viable option and could be explored, encouraged and included in a learners’ overall individual learning strategy. The key point is to open learning and respect learners – all learners, regardless of age or ability – to freely explore their world and learn in their own unique ways.
Chapter 3

Methodology

In our current postmodern era, research studies such as this one acknowledge narrative methodology through the “essential role of the (auto)biographical” (Cooper & White, 2012, p. xiv). A need exists to examine, autobiographically, how learning can be integrated and situated contextually within the daily lives of individual learners. Relevance matters and, as Cooper & White (2012) explain:

Autobiographical research can lay bare relationships between the lives we live and larger, more important world events, since such research begins with self-reference to elements in time, connecting the personal biography of the individual with perspectives of history. (p. xiv)

Autobiographical narratives pay homage to personal lived experiences (Llewellyn, 1998) which represent authenticity and can highlight and showcase informal findings. As well, part of the allure of autobiographical research is also the fact that it makes space for a more holistic frame of reference (Miller, 2010) in terms of context and scope. This can sometimes be hard to measure or quantify, which places this research within the paradigm of qualitative analysis.

For this research, I will critically analyze and reflect upon my own chosen learning agenda and those of the learners I have selected to include. I have included published stories from Coco Kaleel, Sylvia "Super-Awesome" Todd and the efforts in Chicago by urban teens involved with YOUmedia who have publicly shared how they include informal and digital learning in their own lives as a way to further substantiate my own learning journey. My
efforts will focus on exploring and including additional detailed data and a further analysis of Coco Kaleel and Sylvia “Super-Awesome” Todd who, as 13- and 11-year-olds respectively, have learned so much with technology in personally meaningful and informal ways, as they mix formal and informal learning in ways that fit their lives, their interests and their own goals. A narrative approach aligns well with this study where the intent is to highlight informal and technologically infused ways of personal learning. This is intended to help learners who seek to self-determine their own learning agenda. This research is congruent with a learner-centered learning model and the notion that a more democratic learning environment can be nurtured through a self-determined learning agenda.

Through an autobiographical approach, this study will focus upon how self-determined learning, together with technology, can combine and help individuals produce and follow their own learning agendas in more democratic and informal ways. As this is an autobiographical study, I will chronicle my own informal and technologically oriented learning experiences. By sharing how I follow my own self-determined learning agenda through a conceptual framework that I have named Full Access Learning (FUAL), my method and style of informal and democratic learning will become evident. It will become increasingly clear how opening up my learning process through FUAL to include informal and technology based learning experiences enhances and helps my ability to gain knowledge in specific content areas of choice and interest. The hope is that, through this study, it becomes increasingly clear that opening up learning and making space for individual learners to create and follow their own learning agendas can help those who have a willingness and desire to learn but may not thrive within exclusively formal learning channels. Referencing participatory culture civics learning groups – a form of learning through participatory
practice – first introduced by Jenkins and colleagues (2006), Kligler-Vilenchik and Shresthova (2012), share how,

The need to keep up with multiple tools thus also requires flexible organization. For example, newer tools like Twitter, Tumblr and vlogging require a continually expanding set of skills, and often, new organizational structures. These [learning] groups’ improvisational and participatory structures (especially the ability to tap the diverse expertise of their members) allow them to quickly adapt to changes in the new media landscape in ways that are often difficult for more traditional [learning] groups. (p. 38)

Sharing and exposing how individual learners decide for themselves the organization, structure and direction of how they learn through a narrative approach, helps establish more complete pictures of how learning happens in different ways. For self-determined learners, informal learning with technology can be a boon for self-growth and learning in general, in ways that may not be obvious through more formal learning routes – as alluded to above. As I employ a more learner-centered and self-directed approach to my own education, I find that I am better able to diversify, include, and reflect upon the wisdom of a wider variety of experts, co-learners and contributors that ultimately help me to critically assess, reflect upon and solidify my own understandings. As Jandric (2014) points out "education is an intrinsic part of human nature" (p. 85) and "we all learn and unlearn from cradle to grave" (p. 85) and, so, learning (and education in general) is most efficient when intrinsically linked with a learner’s own inquisitiveness and willingness to pursue certain forms of knowledge over other forms. A narrative approach can illuminate and reflect how individual pursuits of knowledge are tailored and followed.
Moving forward, I anticipate this narrative research will become one more example that can highlight different and more democratic ways learners can include technology to create and foster completely new paths of learning that fit within one's own unique and preferred learning style. After all, it is becoming more evident that "informal hierarchies... enable horizontal (and bottom-up) learning" (Kligler-Vilenchik & Shresthova, 2012, p. 38), a practice that moves forward the ability for self-determined learners to further legitimize their own and different pursuits of knowledge.

**Narrative**

This research methodology allows me to be both researcher and participant. As Clandinin and Connelly (1994) express, "one learns about education from thinking about life, and one learns about life by thinking about education" (p. 415). Autobiographical research is authentic as "time and place, plot and scene, work together to create the experiential quality of narrative" (p. 416). For me, the appeal of an autobiographical approach to research is the in-depth analysis that readers gain about the researcher’s own perspective, their thought processes and what they have learned through their journey. "Arguments for the development and use of [autobiographical] narrative come out of a view of human experience in which humans, individually and socially, lead storied lives" (Clandinin et al., 2015, p. 2).

Narrative is a way to “make the self essential and its representation ‘natural’” (Usher, 1998, p. 23). I used a first person narrative approach to highlight how self-determined learning and technology, used together, can facilitate democratic learning. Through this qualitative study, I illuminated how I, and other learners like me, define and create educational agendas that make sense for particular learners. As Greene (1995) describes, “I find the very effort to shape the materials of lived experience into narrative to be a source of
meaning making” (p. 75). My experiences included formal and informal processes, but focus more on the latter. Naturally, the implementation of self-determined informal learning became evident through my narrative approach. In my experience, trying to adapt my own learning goals conflicted with being tied exclusively to a formal educational learning system. Through this narrative methodology, I intended to explore how I, and others like me, have employed technology to “step aside from” formal education and to learn informally. It is important to remember, as Sancho (2010) points out, that "rather than speaking about the impact of computer and digital technologies [themselves], we should start looking at concrete applications, paying special attention to the [actual] educational value of end users’ learning experience" (p.438) that technology helps achieve. Individual narratives of lived experiences help reach this crucial goal.

Clandinin and Connelly (1994) discuss how “field notes may be written by researchers or by participants, and they may be written in more or less detail with more or less interpretive content” (p. 422). I tried to attend to the three dimensional narrative inquiry spaces to frame my data collection – temporality, sociality and spatiality (Clandinin & Caine, 2008).

Temporality was addressed through reflections over time upon lived experiences of learning informally with technology. Sociality was attended to by focusing on emotions and moral responses to events and actions as they were brought to my attention both intentionally and unintentionally. I aimed to address spatiality by examining the places/contexts, where lives were lived and where inquiry events occurred (Clandinin & Caine, 2008). As Clandinin and Connelly (2000) mention, personal "stories illustrate the importance of learning and thinking narratively" (p. xiii).
My constant forays between formal and informal learning experiences and utilizing technology as a tool has contributed toward my bias for using technology for informal learning experiences. Technology has helped me learn in different ways and has led me to believe that informal learning (in all its forms and not exclusively with technology) can bridge a gap and open up learning for students who may not thrive within systems of formal schooling. Although I did not struggle through formal schooling, I found the process restrictive and dull, which contributed to an apathy for learning in general. It is through this personal experience that I argue for a learner-centered approach, such as self-determined learning with technology. The narrative approach allowed possibilities for examining learning in democratic ways that can foster success, creativity and innovation.

Clandinin and Connelly (1994) suggest that, “in the process of trying to understand and make meaning of the experiential situation, it is the internal and existential whole that is ultimately of interest” (p. 416). In other words, learners can determine how their passions and desires intersect with the world around them. Central to this theme is how learners utilize experience and tools of technology to better themselves in self-determined ways. In my experience, in a globally connected world, informal self-determined learning utilizes technology as an instrument to realize aspects of informal learning. To this end, a first person narrative approach can contribute to the field of informal education by examining self-determined learning initiatives.

A remarkably accurate representation of how I frame my life-long learning journey is represented nicely by Clandinin and Connelly (1994) as they state that "the study of experience is the study of life" (p. 415) and this "autobiographical writing is a way to write of the whole context of [my educational] life” (p. 421) as it continues to unfold. In my
experience, in a globally connected world, technology is increasingly used as an instrument to realize aspects of personal and informal learning. This phenomenon is reinforced by myself and others like me who find technology to be a significant aid in exploring our own interests through our own self-determined ways.

Why Narrative?

In an increasingly technologically mediated world, personal narratives that exhibit unique methods and modes of learning can be a welcome approach compared to the uniformity often characteristic of formal mainstream schooling. Personal interpretations and storied accounts of informal learning may untangle sometimes seemingly unrelated events and experiences in order to create coherent understandings of interconnected events that cumulatively build on one another. This life-long process includes paths taken or as of yet unexplored. It may be an authentic representation of a way to live and learn from the learner’s own perspective (Lancy, 1993). Elliot Eisner (1991), together with Lancy, recognize and support novel ways of engaging in research. In discussing his lack of enthusiasm for validating recognized abilities over other talents, Eisner (1991) states that, “it made no sense to me to try to consign knowledge to a piece of paper the size of a bubblegum wrapper, all in the service of verification” (p. 40). Such verification may not adequately respect aspects of individual learning that may not be fully shared or valued through formal research approaches. “In short, educational practice does not display its highest virtues in uniformity, but in nurturing productive diversity” (Eisner, 1991, p. 46).

Most formal verification does not take the “whole person” (Miller, 2010) into account. Holt (1981) argues that, "what kills the [learning] processes are the [external] people interfering with it or trying to regulate it or control it." Traditionally, "most Western
education is highly saturnine in tone: we like order, hierarchies, grades, tests, a gloried past, control, deprivation, remoteness of various kinds, and weighty seriousness” (Moore, 2005, p. 13). Alternatively, informal learning can highlight aspects of education that are not always evident through more formal means such as; internal motivation, lack of grades, personal satisfaction, the ability to follow individual learning agenda, as well as the capability to learn in non-competitive environments and for personal pleasure. By further examining personal narratives, we can begin to explore how determined learners stay dedicated to their interests, learning informally and with technology. We can ultimately start to understand and detail how individual learners diversify their education based on individual needs and interests. As Polanyi (1967) states, “we can know more than we can tell” (p. 4) and, sharing how one learns informally is part of a crucial research story. “The purpose of narrative research is not to provide a single definitive answer but to open up possibilities for new questions and ways of thinking” (Coulter & Smith, 2009, p. 585). The effort here is to point to a direction that opens up and allows learners to weave formal and informal learning together, as they see fit.

A narrative approach is the best way to unpack how self-determined learners utilize technology and take advantage of informal opportunities to progress through their own learning agendas because it focuses on context that is as much an individually relevant context as possible, which will inherently be different for each learner. Ultimately, through FUAL, I will unpack, critically analyze and interpret my data.

**Full Access Learning (FUAL) Framework**

Cooper and White (2012) suggest that "embark[ing] upon this voyage of discovery is to embark, at least in part, upon a journey of learning about oneself” (p.112). Because my learning emanates from a learner-centered approach (Holt, 1967, 2004; Neil, 1960; Zhao,
2012, 2014), where learning begins, is directed, and implemented by the individual, I am able to decide for myself the purpose, reasons, and means of my learning journey.

Full Access Learning is a learner-centered approach to education. Through a process I call “Full Access Learning” (FUAL), I aimed to investigate how I and other self-determined learners effectively bring together all learning; including both digital and face-to-face arrangements. Instead of external institutions and organizations directing, documenting and, on occasion, even restricting learning opportunities (as part of curriculum expectations), individual learners control and decide for themselves all aspects of their education. FUAL accepts learning in all its forms and does not discriminate between any one particularly preferred learning style. Simply put, through FUAL, all learning begins and ends with each individual learner. Because individuals have a voice and the ability to decide their learning, a more democratic process can evolve through FUAL that takes into account different ways one might learn. This deviates from the status quo of focusing on traditional formal learning methods. As part of a learners’ individual interests and desires, one has the ability to opt in and out of any learning situation through FUAL. This contributes toward learning in more democratic ways.

FUAL revolves around and incorporates five key learning principles. FUAL 1) is learner-centered, 2) is democratic, 3) involves negotiation, 4) develops and requires trust and respect and, of course, 5) requires full access to technology and other resources. I will detail how these five elements work together, link and synchronize with each other to engage a self-determined learning progress. I will detail my own use of FUAL, as well as that of other selected self-determined learners. My FUAL framework will be used to identify informal learning experiences in both digital and non-digital ways. My narrative approach, together
with a FUAL framework, provided opportunity to critically evaluate, analyze and interpret how informal learning has allowed myself and others to follow self-selected educational agendas. With FUAL, one may monitor constantly changing channels that can help an individual create, experiment, fail and shift focus, all while cultivating relationships and developing skills and expertise within a self-selected and interactive learning process.

The key is acknowledging and integrating informal participatory and connected learning in all forms – including face-to-face, digital, synchronous and asynchronous methods. Informal learning, as Livingstone (2001) suggests through his Wall and Nall project, combines open access (digital) learning and non-digital learning situations together and represents a fine example of integrating and acknowledging a learner’s personal and preferred learning system. This is FUAL; it begins with the individual and includes social aspects, as Jenkins and colleagues (2006) outline, provided that the learner is actively looking for social influences and has a voice in the process and implementation. So, FUAL is not fundamentally social learning as Jenkins et. al. (2006) suggest, through participatory culture, or tied to specific outcomes as Ito and colleagues (2013) suggest, with regard to connected learning. Rather, FUAL democratically starts and ends with the individual learner and brings in social elements as part of an individual’s learning regime as determined by the individual to be useful and valuable for his or her own circumstances.

Learning purposes and reasons are always personal through FUAL but, as Jenkins et al. (2006) and Ito et al. (2013) share through their respective research, with and through technology, learning increasingly has social elements. FUAL also recognizes and encourages social elements of learning through technology and other means, as long as the learner is in control of the choice, direction and expected outcome of the learning experience. This helps
FUAL stay consistent with a learner-centered and democratic approach toward education and represents how I and other self-determined learners pursue our own interests and knowledge in ways that work best individually. For me, and other learners throughout this research, integrating technology has been an approach that has allowed me to learn and validate educational experiences for myself in ways I would not have been able to do through a strictly formal learning process.

Even though learning is often equated with formal schooling, many of today’s learning opportunities occur in different places and spaces that include informal situations. Digital and non-digital learning situations help learners gain valuable experiences that are personally interesting and valuable for individual learners. Starting from a learner-centered approach, (Holt, 1967; Neil, 1960; Zhao, 2014) where learning begins and is directed and implemented by individual learners, learning is personally meaningful and valuable. This approach helps learners decide for themselves the reasons and means of learning for their own purposes. Often, the approach individuals take toward gaining experiences and learning in different ways, outside of formal learning institutions, includes informal learning. FUAL, opens up and broadens learning opportunities to include informal learning experiences, in both digital and non-digital ways. FUAL aims to extend an individual’s ability to bring together all learning one decides to pursue. FUAL also challenges traditional learning formats through its learner-centered focus and approach. By starting with the learner, FUAL aims to democratize the learning experience by placing a learner’s needs, wants, wishes and reasons for learning up to the individual learner. With FUAL, questions concerning why, how, when and where learning takes place reside with each individual learner and opens up learning opportunities to invite and encourage informal practices. Because of this, and
because FUAL focuses on individual pursuits of learning, it is a democratic learning practice. Through this, FUAL bridges gaps in a learning journey that can arise when transitioning to and from formal and informal learning opportunities.

Full Access Learning is a learning model that is more akin to participatory culture (Jenkins et al., 2006) and focuses less on an accountability structure that dominates the long standing traditional model of formal schooling (Halverson & Shapiro, 2012). Full Access Learning does not aim to completely separate learning experiences between formal and informal but, rather, shifts the reasons and means of learning to the individual and opens up choices to include more informal learning as a learner determines and chooses. In this way, Full Access Learning aims to focus on a learners’ whole approach to learning (Miller, 2010) by incorporating all learning paths, places and spaces that fulfill a desire to gain information; all from a learner’s own perspective. Every opportunity to gain experience, engage in creative play and have opportunities to innovate – by bringing together diverse ideas from different domains in new and unique ways – are integral parts of Full Access Learning. Thus, Full Access Learning shifts away from an institutionally selected and controlled version of learning and allows the individual learner to take responsibility for his or her own learning. In effect, this adheres to a learner-centered and democratic (Holt, 1967) approach to education.

With Full Access Learning as a conceptual framework, examples of informal, self-determined, creative and inventive learning can be evidenced, and elements of informal learning can be analyzed. By using all five elements of the FUAL framework – learner-centered, democratic, negotiation, trust and respect, and technological access – I aim to illustrate how different people with different learning goals work in different settings in order
to gain personal and specific knowledge. FUAL builds on the work of critical theorists such as Freire (1998), Chomsky (2000), Giroux (1999) and Apple (1978) among others who look at learning and the broader formal educational system and constantly question its role in society as the dominant way of educating the masses. As a conceptual framework, FUAL also falls within progressive education and takes cues from constructivist proponents such as Rousseau (1911), Dewey (1923) and Kohn (1993). Learners who are looking to increase learning opportunities for themselves in ways that may not be so conventional can look at utilizing FUAL in hopes of acknowledging and accepting their own personal learning journeys.

FUAL can enable individuals to succeed – in their own ways, as defined individually – in the 21st century by supporting individual pursuits of learning through increasingly informal means. This process helps foster individual educational agendas. Through FUAL, individual learners work within their own creative parameters and can bring into the world innovative ideas, concepts, processes and solutions, as active participants in modern society. FUAL methods encourage individual learners to define their own educational purposes and to pursue their own educational goals through increasingly informal, democratic and learner-centered approaches. Through FUAL, self-determined learners can fully and actively harness modern and digital tools to step into the world and carve out purposeful and meaningful learning journeys that can lead to creative, innovative, passionate and, ultimately, individually satisfying lives. While the open educational learning initiative has accomplished much for digital learning experiences in terms of increasing opportunities to learn, Full Access Learning seeks to afford and understand broader informal learning opportunities.
**FUAL and Connected Learning**

Full Access Learning is similar to "connected learning—learning that is socially embedded, interest-driven, and oriented toward educational, economic, or political opportunity" (p.6), as introduced by Mimi Ito and colleagues (2013). Connected learning’s three pronged approach opens up differentiated and diverse learning opportunities focused around personal interests of individual learners, the social process of learning, and bringing the learning back to an academic, career or civic context (Ito et al., 2013). Connected learning helps to fuel Full Access Learning and is an important addition to the argument for opening up learning and helping democratize education. Connected learning, looks to digital media and communications to: 1) offer engaging formats for interactivity and self-expression, 2) lower barriers to access for knowledge and information, 3) provide social supports for learning through social media and online affinity groups, and 4) link a broader and more diverse range of culture, knowledge, and expertise to educational opportunity. (Ito et al., 2013, p. 6)

In many ways, Full Access Learning encourages many of the same ideals and approaches as connected learning but contributes to the process in different ways due to key fundamental differences.

Full Access Learning differs from connected learning in specific ways; mainly, Full Access Learning allows for further openness when considering reasons or end goals of learning. Connected learning looks for and specifically links learning to educational, economic or political foci (Ito et al., 2013). Full Access Learning and connected learning
both encourage learning from individual interests, but Full Access Learning understands and places further emphasis on the fact that motivation for learning starts from within the individual – an idea that is consistent with a learner-centered approach (Deci & Ryan, 2000; Neil, 1960). FUAL works on the basis that curiosity is individually sparked and created in different ways and it is this curiosity that sets the stage for further inquiry. Also, FUAL extends outcomes of learning opportunities beyond academic, career or civic contexts, to include any and all outcomes that learners decide are suitable – including pursuing knowledge for its own sake.

Learning through FUAL also differs from connected learning because connected learning assumes that the learning process is inherently social (Ito et al., 2013), an idea that is in agreement with a participatory culture framework (Jenkins et al., 2006). Because Full Access Learning begins with the individual and extends full control of learning to the individual learner, Full Access learners begin the learning process individually, in their own minds, sparked by curiosity and a willingness to act further and explore. Thus, the reason and process for learning is individually determined and begun with the understanding that, once a person has grasped what and how they want to learn, social elements can always be added and are almost always a part of the learning process. However, it is clear for Full Access learners that they decide and determine if and when to opt in or out of social learning communities accordingly, as their individual desires to further their specific learning goals permit.

Ultimately, any end goal of FUAL inherently differs from connected learning due to the fact that there is no explicit reason or requirement to have to publicly recognize learning or to specifically tie learning back to academic, career or civic contexts as connected learning
stresses (Ito et al., 2013). Learning through FUAL can simply be for personal reasons. Just as John Goodlad (1984), in A Place Called School, identifies, learning for its own sake is a pillar of schooling. This is also true for a learner engaging in FUAL, where personal interest and a desire to learn is a legitimate and suitable end goal. Learning is a life-long quest and, through FUAL, it is understood that pursuits of interests can, in the future, be combined with other knowledge and interests to fit together what might sometimes seem like unrelated puzzle pieces. Over time, small pieces of information and knowledge come together and combine to create a bigger whole or a pattern that may not have been previously useful or obvious.

**FUAL and Technology – Open Up and Democratize Learning**

By following my interests, I have gained specific knowledge and experiences, a feat that was propagated by the use of FUAL. Learning through FUAL, with the aid of technology, I am able to travel around my city and other destinations, experimenting with different tools, resources and local learning traditions in an effort to blend my own learning processes together to gain a better appreciation for my specific and preferred learning style. This is consistent with the Personal Learning Environment (PLE) Wilson and colleagues (2007) have detailed and determined to be a preferred learning method suited for learning with technology in informal ways. According to Wilson and colleagues (2007) "the user can connect their PLE with social networks, knowledge bases, work contexts, and learning contexts of any size to which they can obtain access" (p. 33) and gain valuable knowledge for their own purposes. In similar fashion, when I learn through FUAL, every trip, every excursion, every day is a different opportunity to learn in a way that excites me personally and helps me connect with others, situated in their own worlds and excelling in their chosen
crafts. Through this process, I gain experiences, friendships and have real opportunities to dig deeply into specific content and learn in a more authentic way. Effectively, I use, a combination of existing devices (laptops, mobile phones, portable media devices), applications (newsreaders, instant messaging clients, browsers, calendars) and services (social bookmark services, weblogs, wikis) within what may be thought of as the practice of personal learning using technology. 

(Wilson et al., 2007, p. 36)

Through informal settings, I am able to open up existing learning routes for myself and discover important knowledge – as determined by me. The fact that I direct my own educational agenda sets my learning journey on a course where my voice has significance. My voice is the voice of the learner and contributes in a direct way toward unleashing my own curiosity and creating a democratic learning route. As Freire (1998) states "if my curiosity is domesticated, I may obtain a level of mechanical memorization of certain aspects of things but never a real grasp or an essential knowledge of the object" (p. 80). By opening up learning to include authentic experiences, informal opportunities and technology that correspond with the ways I want to learn, I am better able to connect my learning to my own specific and particular uses.

Technology is incorporated and ties into my educational process because it is the means by which I am able to record, document, share and expand my learning in multiple ways. Through YouTube for example, I watch videos to gain further knowledge and insights. YouTube videos and tutorials help me gain confidence to branch out and continue to experiment in an effort to gain even more knowledge. Learning can become addicting and it is very satisfying to utilize technology when pursuing passionate topics. Looking back, I
realize that learning with FUAL and technology helps me to shift my focus seamlessly among a variety of interests and quickly reveals the power and importance of choice – by and for each learner.

Full Access Learning helps learners achieve democratic learning situations when options are open (and learners have freedom to follow intrinsic curiosity) and are not artificially limited (by any controlling external source). A learner-centered approach to education like Full Access Learning, fosters, encourages and nurtures independent voice and choice. Full Access Learning depends on the individual learner to guide themselves. Technology is used as an instrument to neutralize barriers, to step into informal situations and helps to eradicate the idea that learning is tied exclusively to formal experiences and schooling.

Data Collection

The data I collected for this study included digital data journals of my learning experiences. My digital data journals include written reflections and thoughts as well as other important information that includes collected websites, clipped pictures and various digital platform accounts I used to login and interact with websites and other users. My data also includes the stories of Coco, Sylvia and the Chicago teens. Coco and Sylvia each represent two powerful examples of how one can craft unique and innovative ways of learning that can lead to personal growth with technology.

I collected my data using selected digital tools and platforms including OneNote, cloud storage services, such as OneDrive and Google Drive, texting and messaging services, Skype video messaging, and YouTube. I use digital services to propel my learning agenda
forward. The digital learning tools I use constantly change over time, as I always strive to experiment and diversify how I learn with technology. Some are well known tools such as Google Drive, while others are newer tools which I intentionally use as I constantly strive to learn in different and innovative ways. For this research, one such tool that fits this description is Slack app. This new digital collaboration application is opening yet another door into different ways that self-determined learners like myself can create new paths in order to organize, assemble and learn for our own purposes. I will detail how all these tools can be combined to help me propel my own learning forward. Digital data journals like OneNote help organize, collect and compile various data in an organized fashion. As my digital data journals are archived and collected over time, they are added to and change as my interests and learning paths change. In essence, I match my learning needs and subsequent data to correspond to my ongoing interests accordingly, in order to help me stay focused, efficient and organized. Therefore, my data collection will consist of storied accounts or “field notes” as Clandinin and Connelly (1994) suggest, of pre-existing past and present learning experiences, describing my informal learning with technology.

Still, because this research is a first-person account, it is imperative that “autobiographical self-study research must engage history forthrightly and the author must take an honest stand” (Bullough & Pinnegar, 2001, p. 16) with his or her approach. I remain mindful of this point, as my field notes become transformed into “field texts” that are “created by participants and researchers to represent aspects of field experiences” (Clandinin & Connelly, 1994, p. 419). As Clandinin and Connelly (1994) further state, “journal entries, field notes, photographs, and so on – are, for us, better thought of as field texts” (p. 419). In keeping with Clandinin and Connelly’s (1994) ideas around collecting data through personal
experience, my data is of an interpretive nature and will include voice, video and informal face-to-face learning interactions. My writing reflections, in the form of field texts, detail learning experiences via videos such as YouTube and Skype, and through social media forums and websites such as Twitter and Reddit.

Polkinghorne (2005) suggests that, “data gathered for study needs to consist of first-person or self-reports of a participant’s own experiences” (p. 183). This study falls within these parameters. In my experience, I am able to learn more by acknowledging and including informal learning and technology because it represents the majority of how I spend my time. I also rely on Zygmunt Bauman’s (1997) notion of “fluid modernity,” which opens up the possibility of connecting different learning situations and experiences in one continuous and integrated path. Therefore, my experience is my data, and my interpretation is my analysis but, as Moen (2006) suggests, it is also “open” for readers to construct their own interpretations. Additionally, Lawrence-Lightfoot (1997) argues, my story “can only be told in retrospect because it seemed to evolve as much out of intuition, autobiography, and serendipity as it did from purposeful intention” (p. 3). An autobiographical account of self-determined learning recognizes “the active insertion of one’s perception into the lived world” (Greene, 1995, p. 74) and may represent how a learner connects the dots to make meaning out of personal life events that foster creativity, learning and change. Our lives are “a route, an experience which gradually clarifies itself, which gradually rectifies itself and proceeds by dialogue with itself and with others” (Merleau-Ponty, 1964, p. 21). Thus, my narrative journey helps “invent visions of what should be and what might be in our deficient society, on the streets where we live, [and] in our schools” (Greene, 1995, p. 5). This data collection
will provide a means to analyze ways for understanding Greene’s visions of what should be and what might be.

And so, this research is the story of my own (and others) experience. Because "there is not one way to practice an ontological commitment to thinking narratively, there is no recipe or series of steps to follow" (Clandinin et al., 2015, p. 2). Naturally, this experience, data and interpretation will be unique and necessarily different from any other account. My data and analysis will illustrate my ability and the ability of other self-determined learners to experiment and learn with technology in informal situations for specific and independent reasons and purposes. Along with the use of the researchers' own personal narrative, the published personal narratives of other similar self-determined learners will also be detailed and analyzed. Collectively, these storied accounts of how individual learners take it upon themselves to learn in increasingly informal and digital ways to satisfy personal curiosities and fuel their own interests will help expand the notion that there are many ways to include technology in order to facilitate learning.

A deeper exploration of teenagers Coco Kaleel and Sylvia “Super-Awesome” Todd may reveal similarities not only between each other regarding the drive to determine their own educational agendas but may also draw parallels with my own self-determined learning, as well. To further facilitate this, another layer of data will look at efforts in Chicago where teens have taken “advantage of networked and digital media to provide engaging learning opportunities for [urban] youth” (Sebring et. al., 2013, p. 1) in non-traditional and informal learning settings. The way Coco, Sylvia and the urban teens in Chicago all learn in different ways may point to themes that can be identified through FUAL, as they develop more informal, personal and technological approaches of learning.
The layer of data I will look at from Chicago includes an innovative initiative by the University of Chicago Consortium on Chicago School Research (UChicago CCSR) and the central Chicago public library. Together, they have created a space called YOUmedia. The goal was to open more opportunities for urban youth to experiment with digital media and learn in self-determined ways. The project attracts urban teens “who want a safe and welcoming place to hang out and socialize, as well as those with established or nascent interests in both digital and traditional media” (Sebring et. al., 2013, p. 1). The research team experimented and reconfigured the library to encourage and inspire urban youth to use the space and new digital equipment in ways they see fit. Safe learning environments with access to technology and informal adult mentorship represents the driving force behind this initiative (Sebring et al., 2013). This focus on urban youth in Chicago provides another example of how emerging and developing initiatives can help advance a self-determined learner’s own agenda for diverse learners.

Therefore, as a way to further substantiate my own learning journey, I will also include public stories shared by these other self-determined learners who also share the experience of learning informally and with technology. Self-determined learning together with technology opens ways for individuals to have choice and freedom, aside from traditional and regulated learning processes, in order to control and pursue learning in one’s own way.

Data Analysis

I will analyze my data by interpreting the field texts and sharing those interpretations as “narrative reflections” (Moen, 2006). Following a poststructuralist perspective, I will use Chase’s (2005) “analytical lenses” as a method to critically analyze and understand informal
“situational [and experiential] constraints that shape inquiry” (Denzin & Lincoln, 2005, p. 10), in an effort to appreciate different reasons and purposes for informal learning. Chase’s (2005) analytical lenses include treating narrative as “a distinct form of discourse. Narrative is retrospective meaning making” which “communicates the narrator’s point of view, including why the narrative is worth telling in the first place” (p. 656). Through rich “thick descriptions” (Geertz, 1973), I uncover, analyze and deduce why I choose to learn informally, what entices me to learn in informal ways with technology and why I feel it represents a significantly vital part of how I continue to learn.

Also, my analysis and interpretations on how I learn informally with technology can lead others to develop their creativity and to learn in their own informal, personal and meaningful ways. Chase’s (2005) analytical lenses also reference viewing narratives as “verbal action – as doing or accomplishing something” (p.657), and narrators “explain, . . . inform, defend, . . . and confirm or challenge the status quo” (p. 657). To this end, my field texts become research texts as I deconstruct them, pull them apart and create meaning (Clandinin & Connelly, 1994).

In an effort to understand and deconstruct my own learning journey, it is helpful to remember Richardson and St. Pierre’s (2005) idea of “crystallization” of information where “crystallization provides us with a deepened, complex, and thoroughly partial understanding” (p. 963) of our lives. As well, a narrative approach allows the researcher to interpret and construct meaning regarding life events with the understanding that ascribed meanings can change, as life continues to unfold. As Coulter & Smith (2009), remind us, "the purpose of narrative research is not to provide a single definitive answer but to open up possibilities for new questions and ways of thinking in the reader” (p. 585). Along similar lines and staying
true to narrative, as Bullough & Pinnegar (2001) state, my narrative journey “borrows” (p. 15) from other disciplines in an effort to weave together a learning journey that is authentic, clear and complete. To this end, and as Clandinin and colleagues share (2015), "people shape their daily lives by stories of who they and others are and as they interpret their past in terms of these stories" (p. 2).

As a result, I will share my personal FUAL approach in an effort to critically analyze how I learn. Consequently, a more complete picture of how I use technology and informal learning to determine and follow my own learning agenda will be revealed and better understood. I will also juxtapose my own self-determined FUAL approach alongside other young learners to better signal that my experience is not an anomaly and that other young learners are also benefitting from a self-determined FUAL approach in their own unique and personally relevant and important ways.
Chapter 4

Results

Connecting All Learning in Authentic and Personally Meaningful Ways

FUAL Framework

Ideally, each element of FUAL works in harmony together. In practice, there is no specific order, as each element combines and overlaps to some degree with other elements in the framework. Simply having access to technology and the latest tools such as 3-dimensional printers and iPads is not enough for FUAL to benefit learners. Instead, an ideological shift about learning may enable a FUAL approach to bring education into greater synchronicity with the world – one that is increasingly shifting and morphing into a creative, connected and mobile society.

The relationship between the institution of school and the rest of society may need to change, as network technologies allow learners to interact with adult professionals outside the school walls, and as classroom activities become increasingly authentic and embedded in real-world practice. (Sawyer, 2014, p. 743)

The FUAL educational framework explicitly encourages individuals to actively participate in the world – particularly outside of an institution – to gain knowledge and experience as needed. Self-determined learners seek out and appreciate opportunities to decide for themselves what is valuable, and FUAL encourages individual learners to do this in order to participate in the world in their own preferred ways. Along with traditional schools and classrooms, FUAL especially includes “the many informal learning situations that... exist
alongside formal schooling, and also include the new computer- and Internet-based alternatives to classrooms” (Sawyer, 2014, p. 730). This, in turn, helps learners progress and succeed in personally appropriate and meaningful ways.

What follows, is a breakdown of the FUAL elements with examples of how I and other learners – 12-year-old Coco Kaleel, teenager Sylvia “Super-Awesome” Todd and urban youths and teens in Chicago who take advantage of Chicago’s Central Library’s YOUmedia innovative and technology focused learning space – use each aspect of FUAL for our own individually appropriate and meaningful educational purposes.

The Learner-Centered Element

Self

In concert with self-determination theory as proposed by Deci and Ryan (1985; 1991), the first aspect of FUAL is that education is learner-centered and allows for as much individual autonomy (Deci & Ryan, 2000) as possible. For me, one of the main draws of informal learning is the sense of freedom I have to completely absorb myself with content I determine is interesting – and in ways that I can organize and facilitate. For example, if and when I enroll in a class, I have chosen certain learning parameters based on that decision. I fully understand and accept these parameters when I choose classroom learning. But I also dedicate my focus and attention toward learning outside classroom settings. I often choose to learn with technology. I watch countless YouTube videos and enjoy spending a great amount of time researching and learning more about individuals who produce content and share their knowledge through media like YouTube. This learning is meaningful for me because I care about who I learn with and from. Before diving into a topic, I frequently think to myself
“who is actually doing this right now? and how? Let me just do a bit of searching and see what I find in this particular space” (Field notes, June, 2016). Technology makes it easy for anyone connected to produce and share content. I enjoy researching further and learning more about the individual behind the screen.

A learner-centered approach requires “a leap of faith to appreciate that a flattened hierarchy and distributed responsibility would be an improvement on the old system” (Laiken et al., 2008, 195). Learning – and education in general – is progressing in the right direction when I am able to direct and learn in personally meaningful ways about content I find stimulating and challenging. Through a learner-centered approach, I am able to tailor and keep my educational agenda current, interesting and meaningful. “I realize I enjoy taking my learning with me – I enjoy not being tied to particular locations – and learning with technology helps me accomplish this task, especially through tools such as my cell phone, tablet or laptop” (Field notes, March 2015). I do this by selecting learning opportunities that are exciting and important while, at the same time, rejecting opportunities that don’t trigger the same elated feelings. This is synonymous with “a learning ecology” that Brown (2000) describes, where the web “allows anyone to lurk and learn” (p. 20) and spreads the idea that “learning can and should be happening everywhere” (p. 20). The opportunity to actively take charge and direct my own education is a vital factor for keeping the drive and excitement of learning alive. Of course,

Good teachers have always put the learner first. But this vision goes further.

If the learner is at the center of the learning process—a proposition that seems obvious, but has not always been easily realized in practice—then learning
networks are individualized and centered on that learner and his or her collaborators. (OnLearning, 2014, p. 6)

When this is the case, learning feels natural and automatic because I choose my activity, participation level, time and direction.

A learner-centered approach is essential to keep interest, excitement and commitment high. The root of learning – meaningful learning – begs the individual to control and direct. The “numerous ubiquitous technologies enabling students' choice in personalizing their learning experiences has encouraged students to become more active agents in their own learning” (Irvine, Code & Richards, 2013, p. 174) and to make educational choices each learner determines worthy and valuable to pursue. Starting from a learner-centered approach allows me to focus on this mandate. If “one fundamental goal of education is to prepare students to act independently in the world” (Schwartz & Arena, 2013, p. 3), what better way to start than open up the ability to create learning routes for ourselves?

Just like any other learner, I value some subject matter over others. I enjoy learning about new technology itself and possibilities new technology can bring. I also enjoy learning about business and e-commerce, as well as digital marketing. Through a learner-centered approach, I choose to learn and be part of specific learning environments geared toward my interest, and I opt for informal and technological spaces. For example, I frequently learn at local coffee shops (an informal learning space) with my tablet (technological tool). I learn by reading discussions on Reddit (both an informal learning space and technological learning platform) and watching YouTube videos.
It’s as if I get an itch that I need to scratch. I feel the need to constantly go back to my online learning communities to see what has happened in particular content areas that interest me and that I choose to be part of. If I’m away from an active community for too long, I feel I am missing something and that I might not be as sharp or up to date with a particular focus as I would like. (Field notes, June, 2015)

I also choose to share certain learning experiences while keeping others private. A learner-centered approach allows me the freedom, at any point, to control all these inputs and outputs; to select and determine the reason, process and direction learning takes.

Education should… not harm… or suppress [a learners’] … curiosity, imagination, and desire to be different by imposing upon him or her contents and skills judged to be good for him or her by an external agency and thus depriving of the opportunities to explore and express on their own. (Zhao, 2012, p. 28)

My ability to cultivate and to choose certain content, to take time and really absorb and understand new information is part of the reason I feel successful and satisfied with my informal education. My curiosity and imagination is free to wander in different directions without being culled or cut short by having to subject myself to someone else’s standards.

**Coco Kaleel**

This bright young teenager follows a learner-centered approach in her own informal educational adventures. Coco, a 13-year-old from California, speaks energetically about her many passions, but especially about her deep interest in working with hand tools such as drill presses and soldering irons (Kaleel, 2016). Coco supports her hands-on informal learning
with tools ranging from soldering irons to community message boards, YouTube clips, and face to face meet-up groups in an effort to dedicate as much of her time to her personal interests as possible (Kaleel, 2016). She details her commitment to setting aside at least one half hour every day, next to her regular formal schooling, for her informal educational choices (Kaleel, 2016). Because Coco is ambitious and dedicated to following her individual passions, she is able to follow a learner-centered approach. She ensures there is always time to experiment and tinker with her drill press and soldering iron.

As well as her love of experimenting and creating with soldering irons, Coco also enjoys learning, tinkering and building drone robot kits. She interacts with others and shares her deep interest and curiosity about drone kits and other technology through her website (http://veryhappyrobot.com). Analyzing her website updates, one can begin to understand the consideration and detail Coco puts into forming and following her own educational path. By reading and listening to how much time Coco dedicates to working on projects specifically connected with her individual interest and curiosity, it is obvious that Coco is a successful self-determined learner who follows her own learner-centered approach. As Coco describes, she is interested in “making technology, not just consuming it” (Kaleel, 2016). As Coco shares, “it starts with each of us to make makers, first ourselves, then others” and embarks on this journey herself as she, together with her father, successfully repaired her own family dishwasher at the cost of $1.00, much faster and much cheaper than a repair man could have repaired it (Kaleel, 2016). This was accomplished by following steps from online resources, dedicating the time and effort to problem solving in creative ways and having the desire, motivation and interest to pursue the task. And, although Coco attends regular formal schooling, she does not allow this to limit her informal learning in any way. Coco is explicit
about always reserving chunks of time in the evening to self-select and learn meaningful content in ways that help her grow (Kaleel, 2016).

Since Coco uses a learner-centered approach, she is able to continue learning at her own pace and in her own ways. Perhaps, because of a learner-centered approach, Coco has been able to achieve so much in such a short amount of time. By the age of 13, this young teenager has spoken at conferences, taught soldering classes to others (including teachers and high school students) and, recently, authored a book, among other accomplishments. “The twenty-first century is all about creating and inventing – tools, art, videos, writing, programs, simulations [and even new ways to learn] – and sharing those things with an increasingly connected world” (Prensky, 2007, p. 3). Coco exemplifies this as she constantly looks for new learning opportunities and self-selects every opportunity she feels will benefit and push her educational interests forward. With help, guidance and encouragement, Coco has taken control of her education and directed it in ways that constantly helped her gain experience in areas important in her life. She is at the center of her learning and, because of this, she is able to enhance her opportunities in different directions, as her needs and wishes change and grow.

Sylvia “Super-Awesome” Todd

Sylvia “Super-Awesome” Todd is another teenager, similar to Coco Kaleel. Sylvia is “the maker of Sylvia’s Super-Awesome Maker Show, a YouTube show I started when I was eight to encourage tinkerers of all ages to go out there and make something” (Todd, 2014). With technology and a desire to follow personal interests, Sylvia has gained a reputation for producing a popular YouTube channel where she explores and shares science experiments that are personally interesting. With the help and support of her father, Sylvia, starting at the
age of seven, was able to follow her own educational program in ways that rival traditional education in terms of choice and opportunities. Sylvia was able to effectively use “digital tools [that] provide opportunities for producing and creating a wide variety of media, knowledge and cultural content in experimental and active ways” (OnLearning, 2014, p.31). Sylvia was able to take an activity she considered “fun” – filming herself during science experiments – and used technology to share the process and product with others through YouTube. As Sylvia challenged herself with more experiments, her fun YouTube channel gained in popularity, as her peers found her videos equally fun and inspirational.

From an initial interest in science to creating videos for others, Sylvia centered, controlled and directed her educational journey around meaningful content. She was able to explore, create and experiment well beyond the scope of her formal school curriculum and expectations required for her age group. Venturing beyond a school’s curriculum was possible because Sylvia is a self-starter. Through a learner-centered approach, Sylvia explored different ways to keep learning in ways she considered vital (Todd, n.d.).

It is important to highlight and point out that, along with following her own interest to determine and create her own learning agenda, Sylvia intelligently uses technology to connect and extend her learning beyond herself. Sylvia stays current with technology in her efforts to connect and extend beyond her physical reach. She utilizes both regular text blogs and, now, more current vlogs. Sylvia experiments and extends her efforts at learning in ways that may not be traditional, but still showcases, and represents Sylvia’s choice to learn, interact and connect in her own preferred ways. “Vlogs” have become her latest way to interact and share her more informal educational adventures. Her vlogs are a popular way for Sylvia to share and showcase more of her life and how she learns through a very personal
medium. As a case in point, Sylvia’s first vlog – about her trip and talk at the Illinois Computing Education (ICE) conference – provided a transparent way for her peers and followers to witness how even Sylvia – a famous YouTuber – gets nervous before a keynote speech (SuperAwesomeSylvia, 2015). Despite her nervousness, Sylvia was able to portray how excited she was to travel to Chicago (from California), have authentic deep dish pizza and share other informal experiences she had after presenting her keynote speech at the conference.

Sylvia’s desire to be part of learning experiences like this has contributed to her being able to share and encourage others to do the same. After all, Sylvia’s YouTube channel has over five thousand subscribers alone! (SuperAwesomeSylvia, 2015). One can argue that gaining this many subscribers – or people who follow and watch her YouTube videos – was possible through Sylvia’s self-determination in pursuing her interests in her own way. Sylvia also shares her personal learning process through her YouTube channel activity – a public record, not only of videos Sylvia uploads, but also of other videos Sylvia likes, comments on and watches (SuperAwesomeSylvia, n.d.). Her activities, including reading her comments on other videos she likes, represent another example of how Sylvia learns and connects with others through YouTube. Clearly, Sylvia is not shy about being in the public eye in order to share how she cultivates and hunts for new content geared toward her interests. She makes it a priority to be as transparent in the process as possible in order to inspire others to do the same and learn in their own ways; to determine and direct learning for themselves.

**Urban Teens**

In downtown Chicago, the central library, along with the University of Chicago’s Consortium on Chicago School Research (CCSR), has experimented and explored possible
ways to help urban youth pursue meaningful learning (Sebring et. al., 2013). Their research has shown that opening up more learner-centered opportunities for urban youth has helped the largely African American male youth and teen population learn in personally meaningful ways. Through their YOUmedia program, participating teens have the opportunity to socialize, experiment and create in ways that each determines and decides, given his or her own reasons and purposes (Sebring et. al., 2013). This was a marked departure from explicitly externally imposed and structured learning and represented a new and novel way to foster a more learner-centered approach. Learners set their own educational agenda at YOUmedia, which helped pull targeted teens and youth in.

YOUmedia attracts high school-aged teens who want a safe and welcoming place to hang out and socialize, as well as those with established or nascent interests in both digital and traditional media. With the guidance of staff and the synergy of peer involvement, participants discover and pursue their interests through both collaborative and solitary activities, such as blogging, writing and sharing poetry, playing and reviewing electronic games, producing music and videos, and participating in book clubs. Special events open the door for youth to collaborate with and learn from recognized artists, authors, and experts. (Sebring et.al., 2013, p. 1)

The most important and distinguishing factor with this program is in opening the space for learners to decide for themselves. That factor significantly contributed to why teens and youth continued to return. Unlike traditional formal schools, “YOUmedia has no attendance requirements, [but] it has been successful at attracting and retaining teens over time” (Sebring et al., 2013, p. 25). This can be partly attributed to the fact that the space places a
greater freedom for learners to make it their own educational and technological hub. Self-starters and learners who long to engage and seek different ways of interacting and experimenting appreciate this freedom. Places like YOUmedia, offer “digital and net-worked media [tools that] offer new ways of expanding the reach and accessibility of connected learning so it is not just privileged youth who have these opportunities” (Ito et al., 2013, p.6). How learners spend their time at YOUmedia is ultimately their decision and each learner is in control of him- or herself; which caters well to a learner-centered style of education.

The Democratic Element

Self

Through FUAL, I democratically select informal situations that utilize technology and social media that help me follow my interests and pursue passionate content. Democratic education and “democracies [in general] are premised on the idea that human differences can be accommodated” (Bellamy and Goodlad, 2008, p. 566). The best way to practice this democracy, in my own education with technology, is for me to interact through online social networks – notably, Reddit subreddits – with others who share my interests and who live in other parts of the world. “Stepping back and reading all the conversations happening, it amazes me how open total strangers can be and how helpful people are toward one another when interests collide and people come together in such an open and willing way to share and learn” (Field notes, January 2015). Together, with the aid of technology, we discuss, debate and enhance our mutual understandings through democratic participation. As an individual learner participating in a community focused specifically toward mutually beneficial content, I have a voice and use it to “shape the social environment” and shape my “own educational experiences by making choices of activities to partake” (Zhao, 2012, p.
167). For example, I have a huge interest in e-commerce. On a Reddit subreddit catering specifically to e-commerce, I participate, ask questions, and begin discussions on pertinent information. Through my participation, I receive feedback from a variety of people and, for the most part, I find contributors willing to share and participate in a serious way. I take note of these co-learners/co-creators/collaborators, as I look to debate and learn further from the same community. I make my own educational choices and look to include others who share similar views around respectful, inclusive and democratic learning relationships.

Often, in learning with technology, I interact with others who may not necessarily share the same local customs, cultures or understandings. This challenges me to further practice my democratic communication skills. As Schugurensky & Myers (2008) share, “the educational potential of participatory democracy is impressive” (p. 76). Together, Schugurensky & Myers (2008) explain that,

By engaging actively in deliberation and decision-making processes,

individuals and [digital] communities learn and adopt basic democratic competencies and values. They learn to listen carefully and respectfully to others, to request the opportunity to speak and to wait for their turn, to argue and to persuade, to respect the time agreed upon for individual interventions and for ending the meeting [and discussions appropriately]. (p.76)

I can confidently report that part of the reason I am able to appreciate someone else’s viewpoint and situate my understanding from their perspective is because I have been able to expose and exercise – through technology – my own democratic communication with such a wide community and varied audience. For example, I have interacted with people (on Reddit) who do not speak English fluently. However, we share similar interests and make it a point to
not allow a small barrier to get in the way of gaining the knowledge we both seek to share with one another. This is especially true when lack of English proficiency is easily overcome through input from a large community like Reddit. It is not unusual – and I have experienced this situation numerous times on Reddit, Webinars and group Skype chat sessions – when many people come together and decode meaning from another language into English, that a person of dual language enters a conversation and interprets so willingly and effortlessly for the benefit of all.

What is continually stressed through the way I learn informally and with technology is the idea that,

If we believe there are certain foundational aspects of a democratic and just society and continue to believe in something that we might call the public good, we must also actively advocate and struggle for bringing these forms into being. (McPherson, 2007, p. 19)

By participating in digital spaces, I push myself to expand opportunities to democratically navigate a new world of learning. “How many hours it takes to ‘master’ a skill is debatable, but I can say for certain that all the hours I spend with technology, learning about specific topics, from such a diverse peer group, helps brings me closer to the point where I feel comfortable that the knowledge I have accumulated is wide and deep enough to participate in specific communities” (Field notes, September 2014). I place myself in the digital mix and strive to bring a democratic practice into being as I learn to respect and widen my perspective in new and challenging ways with a constantly changing group of learners.
My primary process with regards to fostering digital and democratic learning relationships is by reading and lurking on subreddits rather than jumping into a comment or response. In doing so, I learn to carefully craft my participation, as I simultaneously take into consideration the context and population of a particular community. My self-determined and technologically focused education route has allowed me to experience learning with others from around the world and has helped me hone my skills at democratically expressing my own point of view. I constantly ask myself “Why am I part of this community/group? What am I aiming to learn? and how do I contribute back to the community? I am conscious and always keep in mind how others ‘give back to the community’ as Reddit contributing posters constantly reference. Is this the route I will take as well? Once I learn ‘enough’, will I have unique insights to share that others can learn from?” (Field notes, June 2016). I have grown and continue to grow through these experiences. My informal and digital learning through the Reddit social network has further exposed and helped me expand my opportunities to learn in different ways while maintaining control over my educational agenda.

Coco Kaleel

As Coco Kaleel shares, following her interests in non-traditional educational methods outside the parameters of schooling helps her meet a variety of different people. Much to her delight, many of these individuals are more than willing to help her gain the knowledge and experience she is after. As Coco learns to use different machinery, she shares that “one of the best things about hacker spaces, for me, is the access I have to professionals and enthusiasts who know how to use this kind of machinery and who will share some of the projects that they have done” (Kaleel, 2016). Coco is ambitious, and she supplements her traditional school with informal learning, such as through hacker spaces, which means she has to be
very selective about her time. She is realistic about her ability to manage her time effectively while maintaining such a focused and dedicated schedule. This is part of the reason why, when starting out, she “worked in half hour increments at night” (Kaleel, 2016). To be able to involve herself and participate meaningfully in the world around her and to recognize her capability to create in new and exciting ways, Coco, states that she goes “to conferences and lectures so that I can be with others who share my passion for technology” (Kaleel, 2016). Working with so many people with diverse backgrounds, insights, talents and expertise requires Coco, at such a young age, to navigate her technology-focused community with precision, focus and democratic skill.

Coco exemplifies the new learning expectations that young and digitally inclined learners seek and demand as a new standard of practice; one where, “in their engagements with the digital, youth are already beginning to imagine themselves as empowered to create new worlds” (McPherson, 2007, p. 19). How youth organize learning in ways that suit their own lives through technology and informal settings demands that self-determined learners put themselves in places and spaces where they can practice and participate democratically, connecting and collaborating in new and mutually beneficial circumstances. As Coco states, “I’m a huge fan of the open source community and I’m in awe of how many enthusiasts post tutorials and projects online and share their processes. I’ve learned many things by simply watching online. I’m a huge fan of jimmydiresta and I watch his videos all the time” (Kaleel, 2016). Coco is part of this shift because she controls and selects opportunities in very specific ways. She organizes and crafts a learning team – one she can communicate and collaborate with – in an effort to extend and further her educational agenda. She does this by meeting and working with others who are part of the learning community she seeks to be part of and in
which she seeks to further develop her expertise. As a case in point, Coco’s Twitter feed is littered with posts, retweets and comments from others in the technology-infused learning community (Kaleel, 2016) that is actively sharing and participating with Coco. These participants help fuel Coco’s efforts at staying at the crossroads of learning and technology. This strategic move is one that Coco understands is important to schedule and orchestrate.

The way Coco arranges, organizes and democratically commits to her informal educational agenda allows her to schedule evening and weekend sessions (a time when she could better focus her efforts). This involves her joining “a robotics club and a hackerspace so that [she] can learn from others in the technology community” (Kaleel, n.d.). Coco strategically selects appropriate times, places and people to connect with who are willing and able to commit to mutually negotiated parameters – again, a democratically aligned practice. Coco seeks out and works with other learners, mentors and peers who see her vision and goals, and work with her to help her achieve them.

Through consideration of different learning opportunities, Coco practices being part of a democratically organized world. This has helped such a young learner gain familiarity with and engage in authentic learning scenarios, where she is challenged to work with other learners who may be older, younger, and who may have more or less experience than she. Coco puts herself in situations where other learners also have their own agendas but, nevertheless, share similar interests and want to be part of the same learning communities and experiences. By embedding herself in meaningful practices, Coco is constantly challenged to stay focused on her self-imposed and informal educational goals, while democratically selecting others to share and join in her journey.
Sylvia “Super-Awesome” Todd

Similar to Coco Kaleel, Sylvia “Super-Awesome” Todd’s experiences are evocative of responsibilities young learners are taking in terms of their education. Sylvia is among those who realize that traditional schooling is just one approach at gaining information and that there are many other more modern approaches. Sylvia uses technology – especially YouTube – as another way to piece together a more complete educational experience for herself. Sylvia exemplifies the notion that a self-determined and democratic approach toward education is about “respecting children as human beings and about supporting, not suppressing, their passion, curiosity, and talent” (Zhao, 2012, p. 226).

As an energetic child who is definitely not camera shy, Sylvia has figured out that she can learn from and inspire others, at the same time, with the help of technology. By utilizing creative video performances and posting videos on YouTube, Sylvia is able to tap into a way to share and learn through a more kinesthetic approach. This approach helps Sylvia have fun while gaining knowledge about personally meaningful content; content Sylvia deliberately cares to pursue. At the same time, Sylvia, reaches an audience that connects with her through her YouTube channel. This further encourages Sylvia to continue following her own specific educational agenda.

Sylvia’s actions remind us that, in order to diligently work toward personal goals, one must focus on expanding one’s reach in independent ways. Sylvia shows a commitment and willingness to “build on and cultivate peer-to-peer connections between members” (Kligler-Vilenchik & Shresthova, 2012, p. 5) in democratic and mutually beneficial ways. Part of this process, and one that Sylvia executes with such finesse, is linking up with technological tools and with other people. As Sylvia connects her learning agenda through increasingly unique
approaches, she effectively “builds more diverse entry points and pathways to opportunit[ies]” (Ito et.al., 2013, p. 34). Collectively, this helps Sylvia push towards achieving her self-selected goals while, at the same time, respecting other people’s time, commitments and goals.

As an example, one of Sylvia’s goals was inventing and creating a watercolor robot (Super Awesome Sylvia’s WaterColorBot, 2016). To complete her goal, Sylvia, 12-years-old at the time, had to successfully find others who were willing to participate and collaborate on her vision. It would have proven a difficult task if Sylvia were not able to democratically work with and align herself with her co-creators, Evil Mad Scientist Laboratories (Evil Mad Scientist Laboratories, 2013). By diligently hunting for suitable collaborators, and not stopping until she found Evil Mad Scientist Laboratories – a small husband and wife team dedicated to experimenting with technology – Sylvia was able to bring her project to life. This was possible because the team at Evil Mad Scientist Laboratories and Sylvia were able to honestly and fairly align their talents, strengths and vision. To credit the duo at Evil Mad Scientist Laboratories, they were also able to recognize the value that a young enthusiastic and determined tinkerer, like Sylvia, brought to the team. Sylvia’s vision and ability to spearhead the whole plan, starting from a simple science fair project, turned into a viable product that is definitely a sign of pure dedication and commitment for all involved. Sylvia was skillful at finding others who aligned themselves equally for a defined purpose; in this case, Sylvia’s desire to invent and create her WaterColorBot. Throughout the process, Sylvia gained and honed many talents and techniques, including but not limited to negotiation, time-management and cooperation through collaborative and democratic partnerships.
Sylvia and other self-determined learners like her show that “the most common forms of project-based learning exist in after-school computer groups, robotics clubs, and competitive math and science teams” (Atkinson & Mayo, 2010, p. 70), where learners choose to be part of the community and take initiative in these more informal learning opportunities. These informal learning opportunities often involve careful consideration and a deliberate effort to share, work and align oneself with others. Likewise, through informal learning, there is a deep connection to material because it is the learner who chooses to be present and actively pursue specific knowledge. For example, “museums, with their rich resources and highly [and informally] designed learning environments, can be places for engaging deeply with a discipline in ways that are not available in schools or at home” (Crowley, 2014, pp. 470-471). In addition, “for many children, early expertise rooted in informal learning experiences will be the first time they encounter the power of discipline-specific knowledge and the first time that they (and their parents) recognize that they might have an interest in pursuing a specific discipline” (Crowley, 2014, p. 470). This is true in Sylvia’s case. “The seeds for the [YouTube] show were planted when Sylvia was 5, and she and her father attended the Maker Faire in San Mateo, California, an annual event organized by Maker Magazine that celebrates makers and their projects” (Bhanoo, 2013). Together with her father, Sylvia enjoyed messy experimenting, playing and learning in ways that Sylvia controlled, chose and directed. “Sylvia Todd’s desk is not tidy. It’s cluttered with small robots (including a solar-powered grasshopper), motors, wires, resistors, a soldering iron and an array of other gadgets and tools” (Bhanoo, 2013). Part of the reason Sylvia is so focused on following her own educational agenda lies in the fact that the subject matter is personally meaningful and, with this, a different level of respect toward co-learners and co-creators
develops. Sylvia, through her own volition, shares and is part of certain learning communities which, in themselves, bring different learning opportunities and relationships – most of which are eagerly and equally involved in looking for others to enhance their own selected knowledge. Consequently, informal and technological environments can help foster and encourage arrangements and experiences, like Sylvia’s WaterColorBot creation – in democratic fashions.

**Urban Teens**

The urban teens in Chicago who utilized YOUmedia’s library space understood that, first and foremost, they were in a library setting. Even though YOUmedia’s space included technology typically not found in traditional library settings – such as DJ equipment and other music creation tools – participants realized the need to share and respect the space universally. This required users to diligently and democratically navigate different zones and spaces that make up YOUmedia. This was achievable because learners were encouraged to follow their own purpose and agenda whether social, academic or other. To add to this, researchers were adamant that “teen interests and teen choice are central features” (Sebring, 2013, p. 3) of the space, and, “YOUmedia [in an open and democratic fashion, was] not as systematic about the link-ages it is trying to promote between teens’ experiences in the space and their academic lives” (Sebring, 2013, p. 3). Self-determined experimentation was front and center.

At YOUmedia, learning experiences and opportunities represented and reflected the availability for participants to pursue a more personal and tailored approach toward knowledge acquisition. This helped urban teens appropriately respond to their own needs and wants in more informal ways. “With its focus on interest-driven learning, YOUmedia
supplements the educational experiences of the teens who attend, but it also provides an example to the broader education community of activities that motivate and engage urban youth” (Sebring, 2013, p. 56). Through open choice and the ability to follow personal educational agendas, YOUmedia created a space where youth and teens can be part of the world in meaningful ways. Actively pursuing, engaging and participating at YOUmedia involves consideration and extension of individual choice in order for learners to control and decide the best use of their time. This was among the primary draw for many of the learners.

Because the space is a fluid hybrid of both unstructured and structured activities, teens can choose their interests and the intensity with which to pursue them. This gives them a kind of autonomy that is different from school and different from many other out-of-school programs. Teens expressed fervent appreciation for this autonomy, perhaps because they do not encounter it in many other places. (Sebring, 2013, pp. 51-52)

The opportunity to decide what they wanted to achieve and why, without an authority figure pushing an external agenda, was liberating. This also respected participants’ choice to naturally gravitate toward working with motivated supportive peers and adults. In fact, YOUmedia’s ability to

Integrat[e] digital media into the out-of-school environment provides further advantages in that it may help to link home, school, community, and peer contexts, and it may facilitate youth working with each other and adults on projects in which they have a shared interest. (Sebring, 2013, p. 15)

Through such a democratic approach, learners had a chance to follow their own
purpose, share space, equipment, resources and the expertise of others in ways that made sense. The YOUmedia space proved that “motivated students without either teachers or schools [who are] dedicated to [experimenting with] problem-based [and other] learning styles] can sometimes find opportunities outside the regular curriculum” (Atkinson & Mayo, 2010, p. 70). In fact, many teens and youth were thankful for a safe space where they were able to finally have an outlet to create and follow their own agenda. As one teen shares,

I don’t know other places that I’d go to… that aren’t pushing some mission on you, like, ‘Let’s save the youth of our urban communities.’ I’m sure YOUmedia has that as one of their goals, but they’re not forcing it down your throat. (Sebring, 2013, p. 17)

Learning spaces that respect one’s willingness and desire to learn in autonomous and self-determined ways represent a more democratic opportunity to engage with the world. These important spaces and places, like YOUmedia, are outlets for learners to focus on growing in personally relevant ways – as determined by the learner. The Chicago urban teens associated with YOUmedia involved themselves in the real world by pursuing their own interests; working with media, technology and other experts and mentors. Through this process, individual learners were able to add their voices to a meaningful topic close to their heart, through a preferred and chosen outlet. In this way, learners are offered a more democratic option to explore and continue down their own educational paths for their own purposes.
The Element of Negotiation

Self

My informal education almost always leads me to a point where I am faced with negotiating – with others, with technology and with myself. For example, I constantly face an internal struggle to schedule specific learning times and to figure out optimal places and spaces – both physical and digital – where I can focus and pursue learning each day. Looking back, it is clear to me that I struggle with the “duality between the affordances of the social world (i.e. the communities in which individuals participate) and how individuals elect to engage in those practices” (Billett, 2008, p. 23). I constantly negotiate “between the social and personal” (Billett, 2008, p. 23) and understand that responding to this challenge in appropriate ways is essential before I can move forward and negotiate with others. Luckily, there are digital platforms catering to all niche communities to practice in and learn from, on my own and with others.

I regularly learn with technology and, because of this, I interact with others whom I have never met in person. Due to the fact that I learn with virtual strangers, connecting and communicating involves a lot of negotiating; which is, “on the one hand, between . . . the social world . . . and on the other, by how we engage” (Billett, 2008, p. 24) with what we receive in return for our interactions with the social world. The process has proven to be a very delicate one, as I reach out and continuously try to establish mutually beneficial learning relationships. I am fortunate because my experiences indicate that most people with whom I interact through technology are open to sharing their knowledge. With participation and negotiation, my online relationships help me gain knowledge and insights and help me expand my virtual learning network as often and with as much variation as I choose to
design. Coupled with this, and one of the reasons why I feel informal learning is so powerful – particularly with technology – is the fact that, as I participate, I “do not simply reproduce existing social practices. [I] constantly remake, revise and transform [social practices], in a process of negotiation between the personal and social” (Billett, 2008, p. 24). As social beings, negotiation always comes into play in our everyday interactions with one another because “neither analysts nor participants have privileged access to others’ subjective interpretations” (Stahl, Koschmann & Suthers, 2014, p. 490). That is, we never know what one is thinking or what kind of personal experience one can bring to the table. So, learning – particularly self-determined informal learning – always involves the delicate dance of democratically negotiating with other co-learners, experts, mentors and peers in an effort to create conducive learning relationships. Every time I engage in self-determined learning, I have an opportunity to practice my negotiation skills. It takes work and dedication to convince others to contribute to my vision and to help me progress and learn in my own way. My ability to stay focused and negotiate my own learning parameters pushes me to continue learning in different, informal and authentic ways, including niche-based digital learning communities. These communities, like reddit subreddits, slack groups and technology in general, is a great way for me to focus efficiently at creating my own learning path because all my efforts are centrally located in one place but, yet, are available in every place at the same time. What follows is a concrete example of how I learn and negotiate with technology.

My first step is to read and “lurk” in communities and forums. I gain the bulk of my knowledge from reading dialogues and discussions others have on topics I am interested in. This is how I prefer to learn and how I direct the bulk of my time. Once I have familiarized myself with a community, I have a chance to follow and gain insight into some of the
members who frequently post. I gain a further understanding of their viewpoints and the extent of their knowledge by reading the history of the content they share. As I narrow my mental list of potential people I would like to connect with further, I then message them privately or directly, depending on the network and options available for people to connect and communicate. This is the point where my negotiation skills are practiced and honed. I think about and evaluate my options. Once I establish a connection, I evaluate my negotiation skills based on the type of feedback I get. If I get a quick, friendly and welcoming response, I consider my efforts a success. Together, we continue to communicate and both benefit. Depending on how motivated or absorbed we are in our content, we may even sometimes move our discussion to a more personal environment such as Skype where we can video conference with each other.

At the other end of the spectrum, if my initial message to a member receives a delayed, unfriendly or no response at all, I consider my efforts to negotiate and generate another learning opportunity for myself unsuccessful. My efforts to broaden my learning network into the digital realm and to learn with strangers requires constant practice. From messaging certain individuals to video conferencing in real time over Skype, meeting and exceeding my personal standard of success relies heavily on my ability to constantly secure and spread my learning network. The physical space I occupy is only the starting point in my quest to go beyond; to negotiate and to direct myself into more focused digital learning communities. As McPherson (2007) outlines, I am modelling and leading the way learning will increasingly occur as I follow rules she has outlined for learning with technology in the digital era, particularly, “making the future hands on” (p. 9) and “broadening participation” (p. 12). As I continue to practice and learn through FUAL – particularly through informal
and technological means – I realize that I am very selective about who I choose to learn with. I reach out to others who are deeply involved within my areas of interest and gravitate toward people who have very specific knowledge. In doing this, I can be very specific and focus on the learning I want to achieve because FUAL allows the space to slow down or speed up my learning and to pursue certain directions, as I choose.

Coco Kaleel

Through her informal and technological learning adventures, Coco Kaleel has enjoyed the opportunities to speak at conferences, teach others and even become a published author – co-writing a forward – all while still a teenager. These are just some of Coco Kaleel’s highlights and accomplishments that she has been able to achieve through self-determined and personally meaningful learning pursuits. Of course, because Coco self-determines many aspects of her education, opportunities she takes advantage of are not necessarily tied to external pressures. Coco enjoys imposing and directing her own educational agenda. Coco’s educational detours from her formal and traditional schooling activities would be extremely difficult to attain if she was not able to constantly and successfully negotiate with other peers, mentors, co-learners and collaborators involved in her diverse projects. Again, the premise of why Coco decides to be so involved and learn in diverse, open, informal and technological ways is because she has a deep desire and passion to learn; and through informal means, she can and does pursue her own learning. The more I learn about Coco, the more I see that Coco exemplifies part of the Onlearning (2014) report, mainly that she truly engages in “social and emotional learning” (p. 69). Coco Kaleel isn’t shy. She carries out the “relationship skills,” (p. 69) practicing “the ability to establish [negotiate] and maintain healthy and rewarding relationships with diverse individuals and
groups” (p. 69) and with remarkable determination.

Granted, Coco has a very supportive father to help her achieve her desire to learn independently but this, too, involves negotiation. Coco has proven to her father that she is responsible enough to continue with and complete her formal studies while also exploring other interests she is deeply passionate about. This is an example of Full Access Learning in practice; pursuing formal and informal learning where both pursuits complement each other and where technology is used as a tool to efficiently handle, organize and continue the process. Even at such a young age, successfully negotiating and balancing formal and informal learning situations is a tough skill to master. By trusting and “allowing students [like Coco Kaleel] the freedom to choose what to do in school [and out, it] helps children learn to take initiatives” (Zhao, 2012, p. 159). Moreover, “when children are given the freedom, they have to take the initiative to [negotiate and] decide what to do” (Zhao, 2012, p. 159). Then, at that point, “when they do what they want to do, they have commitment” (Zhao, 2012, p.159). This commitment further enforces and encourages a learner to follow and continue to forge their chosen path(s) with determination.

Coco Kaleel has struck a balance between her formal and informal learning routes. She has found an approach that allows her to diligently negotiate and dedicate her time to both activities; one externally directed and the other internally directed. This is possible because Coco Kaleel is focused on being able to pursue learning in her own way. She deliberately focuses on negotiating solutions that allow her to keep pursuing her interests and passions. She negotiates with her father who must trust and respect her, with teachers to extend deadlines or project parameters, with peers and co-learners around her intended direction, with conference organizers and a whole host of others. Each participant plays a
part in helping and working with Coco Kaleel to increase her participation and opportunities; to grow and share her knowledge, expertise and, above all, her personal learning initiatives.

*Sylvia “Super-Awesome” Todd*

Negotiation also plays a significant factor in Sylvia Todd’s life, as she chooses to learn in different and increasingly informal ways with technology. Negotiation helped Sylvia start her YouTube channel and helped launch her “Super-Awesome” show. Along with the success of her YouTube show, Sylvia gained a reputation as someone who is determined to grow her presence in spaces where science and technology merge. Sylvia is not shy about her desire to experiment and pursue her interests and move beyond traditional ways of learning. Young Sylvia Todd knows no bounds when it comes to diversifying ways to learn. In fact, “Sylvia Todd, star of *Sylvia’s Super-Awesome Maker Show*, came up with the idea for the WaterColorBot because she wanted to create an art robot and enter it in the RoboGames competition” (Evil Mad Scientist Laboratories, 2016). Sylvia’s overt willingness to learn with very little “fear of failure” is remarkable and her informal learning initiatives and open collaboration is key to Sylvia’s success at honing her negotiation skills. In fact, Sylvia “approached … Evil Mad Scientist Laboratories about collaborating on…[her] project, and …[they] loved it” (Evil Mad Scientist Laboratories, 2016). As they continue to share,

Together we designed and built our first prototype in February, and had a nicely-working robot about a month later. As we realized that this project had a lot of appeal beyond just a one-off project, we started developing it into a kit. Sylvia exhibited her prototype at RoboGames (and won a Silver medal), and we also brought the WaterColorBot to Maker Faire, where thousands of people got to play with it…. Sylvia was also invited to the White House
Science Fair in April, where she got to demonstrate the WaterColorBot for President Obama. (Evil Mad Scientist Laboratories, 2016)

Why is this important? It shows that, given the opportunity, Sylvia is willing to go beyond traditional boundaries and make learning her own. Sylvia acknowledges and owes much to her co-developers at Evil Mad Scientist Laboratories, but she also has much to be proud of for having the confidence to branch out into the field she is passionate about and to connect with others to produce something special. This was only possible because Sylvia had the ability to be part of the world, to meet individuals and to negotiate. Windell and Lenore from “Evil Mad Scientist” saw the value of both the product and the value Sylvia herself brought to the project and team. Sylvia’s ability to bring all the pieces together and fulfill her vision was a powerful, purposeful and meaningful pursuit of learning. This pursuit was possible because she had the ability to negotiate and follow her own learning agenda for her own purpose.

**Urban Teens**

The Chicago teens at YOUmedia negotiate just as much as Coco and Sylvia through the vast opportunities YOUmedia has for teens to spend time and to learn as they wish. Among their activities, “young people are welcome to drop in to hang out with their friends, eat, play videogames, or check out a laptop” (Ito et.al., 2013, p. 63). With such a wide variety of activities to choose from, the teens must constantly decide, interact and negotiate with both peers and mentors. For example,

Adult staff members work as mentors and create formal opportunities for learning and skill development, but teens who choose to come to the space are
free to engage in these organized activities, pursue other interests supported in the space, or just relax. More importantly, they can easily negotiate and go back and forth between structured and unstructured activities. (Sebring, 2013, p. 16)

For the urban teens at YOUmedia, the most inspiring and exciting moments arise when individual interests collide with technology and where specific, deliberate outcomes are created. Here, the “teens have the autonomy of choice [and negotiation] in a context where the adults play significant roles in teaching, advising, and coaching” (Sebring, 2013, p. 16). Increasing the scope “for young people who become highly engaged in the interest-driven activities and [informal] mentorship opportunities” (Ito et al., 2013, p. 66) challenges learners to focus, prioritize and negotiate their specific agendas. Places like YOUmedia are key for self-determined learners to be able to get into their own “groove” to produce and follow independent learning paths for individual reasons. YOUmedia represents a different and welcome approach for learners to engage, direct and connect themselves to the world around them and to learn through digital media focused experiences.

Adults too, play a role in negotiating activities and trajectories of programs at YOUmedia, just like the youth. The space provides ample room for all involved to collaboratively direct and pursue activities where interest is the deciding factor. As a result, “the staff at the site have … actively adapted their programming to respond to the interests that young people bring to the space. For example, after noticing a group of young gamer’s interest in reviewing games, a librarian developed and implemented a game review podcast” (Ito et al., 2013, p. 66). New programming, such as a game review podcast, takes considerable time and effort to implement because, while the librarian has every good
intention with her initiative, the success of the program still resides with how well she is able to negotiate with the youth. Soliciting the voices of the gamers and implementing their wishes into a new program geared toward their interest, results in tighter collaboration and participation. On the flip side, if the librarian fails to adhere to the gamers’ specific wants and needs, her efforts will have a much higher chance of failure and the gamers may ultimately miss an opportunity to bring this new experience into focus. Thus, each member in this learning community, from adult mentors to new learners, decide their level of participation, partly through effective negotiation.

The Element of Trust and Respect

Self

In keeping with a democratic approach for purposeful learning, trust and respect for and from others is paramount to my educational routine. I appreciate and recognize that we are all unique and independent individuals with different experiences that are interpreted in our own ways. Exposure to multiple learning experiences combines personal perspectives and individual knowledge vital to a democratic learning environment – one that respects and trusts others. Similar values are raised by Palmer and colleagues, (2010) when they state that one of the most powerful drivers of education is “relational trust [and respect] between teachers, teachers and administrators, and teachers and parents” (p. 139). I extend this “relational trust” to include relational trust and respect between teachers and learners and among learners themselves. Relational trust and respect among all learners helps achieve a more democratic educational environment. In my own informal learning experiences, I strive to make a concerted effort to extend trust and respect toward others within my educational journey; whether they are generations younger or older. I recognize and value the experience
others can offer and acknowledge the fact that younger generations can teach me valuable skills and techniques just as well and sometimes better than my own or older generations can.

I choose not to discriminate between age, level of knowledge, personal backgrounds or other factors that can limit or narrow a potential learning partnership. In fact, I often make an effort not to ask about factors such as age when reaching out to co-learn in informal ways through technology. With trust and respect, my first point of contact with a co-learner is based around a context of mutual interest, as I position myself in places and communities that focus upon topics I am interested in. I will use Reddit and Slack as examples, as much of my learning has taken place in one of Reddit’s focused communities.

As previously noted, I have a deep interest in e-commerce. I spend hundreds of hours a month lurking, reading and absorbing vast amounts of information about e-commerce – all of which begins primarily from Reddit subreddits. I frequently come across passionate individuals who share very detailed and in-depth information about their own successes and failures in e-commerce and, as I further involve myself in digital learning communities, our mutual interest, voice, opinions and thoughts become constructive feedback to grow and learn from. As Yazzie-Mintz (2010) outlines, “having a ‘voice’ is to be recognized as an individual with thoughts, perspectives, and unique ways of learning” (p. 24).

Part of learning in such an open format is believing, trusting and respecting what others have to share and say. Such a learning environment can be seen as more democratic and one that is ripe for establishing an educational practice that encourages, trusts and respects a learner’s own voice, opinions, and reasons, as “everyone’s contributions are seen as valuable, [and] all members are encouraged to voice their suggestions and thoughts” (Kligler-Vilenchik and Shresthova, 2012, p. 38). My experience indicates that Reddit
subreddits represent a world of passionate individuals coming together, not because they have to, but, because each participant wants and chooses to be part of a larger community – to share, expand, learn and progress in their own chosen direction. I am one of these learners and I progress with my fellow peers in the very same way.

To add to my example, in an attempt to collaborate further, one user decided to pool the most dedicated people together in an effort to establish an even more refined group of learners who are passionate and friendly. With support and encouragement, a Slack group was formed where those interested (including myself) could come together in a different and more intimate setting; one where further sharing and collaboration can occur. And because there are more options for sharing on Slack, trust and respect is ultimately and necessarily part of what keeps such a group active and valuable. Through Slack, any member can easily share and upload a growing list of files, including PDFs, online documents through Google and other similar services, pictures and other files, all in an effort to help each other learn and progress further in an intended direction. My preference for learning in informal and technologically focused ways helps me interact, negotiate, trust and respect fellow peers through solutions that help me approach learning in my own way.

Through FUAL, I base my learning practice on the idea of “student voice,” as (Hargreaves, 2004) stresses, forming trusting and respecting educational partnerships. I do this to expand my learning relationships primarily through technology, being present and active in communities on Reddit and involving myself in Slack groups. These communities are specific and active where the majority of contributors are friendly, truthful and respectful co-learners, willing to chime in at any moment to voice their opinion and share knowledge. As I learn through a FUAL approach, I am constantly reminded “why [trusting and]
respecting student voice, self-governance, and passion are not only morally right but also educationally sound” (Zhao, 2012, p. 30). I am constantly amazed at how much I am able to learn in such a short amount of time from knowledgeable, dedicated and trusting people (whom I have never met in real life). As I learn through personal interest and self-determination, the constant, immediate and constructive feedback I am able to receive through technology allows me to continually improve myself.

Technology enables me to continue learning with others in asynchronous formats and for mutual benefit. Learning through such open, informal and technologically driven initiatives continues to promote and solidify democratic learning environments. “All of those committed to the principles of lifelong learning and the democratic development” (Livingstone, 2001, p. 30) of informal and technologically driven learning “should be interested in further exploration” (Livingstone, 2001, p. 30) and integration through creative, innovative and personal directions. By fostering trust and respect for others, I can focus on learning in my own ways for my own reasons and purposes.

Coco Kaleel

Through technology, learners such as Coco Kaleel have the opportunity to express their creativity and open up their learning experiences in a number of ever-increasing ways. It is impressive to witness and be part of more humane learning experiences that self-guidance and technology can point out, highlight and promote. Coco Kaleel experiences a more humane learning experience as she involves herself with learning through a process filled with trust and respect – both from and for her.

Coco Kaleel and her father, for example, share a love of hands on learning, one Coco
shares and talks about frequently on her website and in her many speaking engagements.

“Almost every night for the past several months… my dad and I went out to the garage for a few months each night… and now its [the drill press] as good as new” (Kaleel, 2016). Of course, hands on learning in the family garage isn’t the only way Coco learns, but it is an important inclusion. Coco also attends traditional schooling, which involves a commitment to complete homework and other assignments. This is meticulously balanced while she follows her other interests and pursues learning informally with her father and other mentors, peers and interesting co-learners. However, the chance to pursue other informal learning – learning beyond traditional formal schooling for Coco – revolves around negotiating with her father, and her father having the trust and respect for Coco to allow her the breathing room to step into a world of learning that Coco crafts and creates for herself. At the other end of the trust-respect spectrum, Coco understands all her responsibilities and commitments and works hard to maintain a balance with both her formal and informal learning in an effort to build and maintain her ever-expanding learning circles. Often, informal learning experiences take Coco away from her formal schooling, but Coco has built up enough trust and respect with her father and teachers that allows Coco to be in charge of her learning efforts. As opportunities come her way through the exposure and connections realized by her primary outlet of expressing her interests – her website – Coco assesses and determines when, where and how her learning will continue, all coordinated – with others – through trust and respect.

Even though Coco is still a young teenager, because of the reputation she has built for herself through her extensive and creative hacking projects with different technology, she has successfully raised her profile as a respected “mover and shaker” in the area of building, playing and making technology. By fearlessly showcasing her attempts at “messing around”
with different technologies in different ways through her website and by participating in numerous technologically focused educational events, Coco has created a following and a fan base. A quick scan on her twitter profile shows that she has a hundred followers (Kaleel, 2016). As a token of appreciation, many of Coco’s followers trust and respect her opinions and her reviews, and enjoy her unique approach and outlook concerning technology, often retweeting and even quoting from some of her scheduled appearances at conferences (Fryer, 2016). Coco is inspirational for many young teens (and adults) who strive to comfortably play and experiment with technology.

Coco challenges traditional views on who an “expert” can be and what one can look like. This has never been more true than when Coco was invited to be a trusted and respected panelist at Loscon 40. In Coco’s own words “I recently was asked to participate at the Loscon 40 convention as part of the Make Room! I was on two panels and gave a speech titled ‘Girls and Robots’, which was about my journey through electronics and empowering kids in that field” (Kaleel, n.d.). Coco was a trusted and respected individual at Loscon 40 and in many other learning scenarios where she takes a leadership role to direct a talk, class or participate in a judging role where her skills and talents are not only trusted and respected but also sought out.

**Sylvia “Super-Awesome” Todd**

Just like Coco Kaleel, Sylvia Todd has also garnered trust and respect among her peers through her successful “Sylvia’s Super-Awesome Maker Show” – her YouTube channel – “where she shows kids and adults that making things can be fun, easy and more rewarding than just buying something” (Todd, n.d.). It is refreshing to see the reversal of roles that Sylvia has managed to achieve at such a young age. In many learning
circumstances, Sylvia has become the person others look up to, learn from and seek advice. For many young learners, traditional and formal learning routines typically operate the other way around and have very little room for learner-led sessions. Eight-year-old Omkar, CEO of *The O Watch* – “an open source Arduino based smart watch kit designed for kids to create their own watch and learn the basics of coding, 3D design, and band making” (O Watch, 2016) is but one example of a young, digitally savvy learner who looks up to Sylvia. Omkar also takes part in co-learning with other peers in unstructured and informal ways, thanks to his dad who runs the https://iot4kids.com/ blog in an effort to further encourage his son. Because Omkar runs in the same learning circles as Sylvia, he instantly recognized her and jumped at an opportunity to take a picture with Sylvia at the mutually attended Maker Faire (IoT4Kids, 2016). The mutual trust and respect of many learners – both young and old alike – is a boon to various learning communities filled with motivated self-determined learners. It is great to observe – through technology – individuals like Sylvia having the desire, curiosity and interest to become a part of chosen learning circles, events and opportunities.

Sylvia’s trusted and respected expertise is shown through the many glowing reviews of her book, *Sylvia’s Super-Awesome Project Book: Super-Simple Arduino (Volume 2)*, by the likes of Steve Wozniak, cofounder of Apple computers, who points out that “Sylvia carries that motivation factor so well” (Wozniak, n.d.) throughout her book. The reason for this is simple; Sylvia is trusted to take her learning in directions she is passionate about – even though the “learning” is neither traditional nor externally “verified” through standardized tests. Having this high level of respect for young learners to individually curate learning experiences based on interest and internal motivation enhances the learning experience for all involved. Learning and expressing herself through her show, Sylvia “has
garnered attention from parents and educators the world over” (Todd, n.d.). It is inspirational and empowering when learners such as Sylvia have individual and internal “curriculum” validated, as self-determined learners follow her with interest and passion and continue to learn in ways that use technology to connect, expand and explore further. It is also motivating to observe how self-determined informal learning with technology can result and lead to other exciting opportunities. In Sylvia’s case, she has been a trusted and respected “TEDx speaker, an Open Hardware Summit speaker, a faculty member at Constructing Modern Knowledge, a keynote speaker at Robots Conference International and appeared in numerous documentaries and publications” (Todd, n.d.). It is wonderful to witness such a young and motivated learner gain such trust and respect in a field in which she has dedicated so much time, effort and energy. The impact she has had on so many other people is astounding, as “learners of all ages report that the [Super-Awesome Maker] show inspires them to make things and learn lots along the way” (Todd, n.d.). Through Sylvia’s dedication, she is rising head and shoulders above her peers as a trusted and respected member of the science and learning community; teaching and showing how hacking, tinkering, making and playing with technology is fun and accessible. Would this be possible without opening up the space for Sylvia to direct her learning in ways that make the most sense for her own purposes?

**Urban Teens**

The urban youth and teens affiliated with YOUmedia in Chicago use time in this library space as they wish. There are five different types of teens who frequent the space; “socializers, readers/studiers, floaters, experimenters, and creators” (Sebring, 2013, p. 21), and each has his or her own preferences as to how they spend their time. Some teens
socialize, some create and others float in between. The advantage to this is that “they can easily [choose and] go back and forth between structured and unstructured activities” (Sebring, 2013, p. 16) as they determine. However, most hang out and network with people they trust and respect and who help them achieve and accomplish their individual goals. This is perfectly in synchronicity with the premise of the space, which is to “allow teens . . . to excel in their craft, connect with established artists and other professionals, and publicize their work to larger audiences” (Sebring, 2013, p. 45) in a safe, trusting and respectful environment. The highlight here is that activities at YOUmedia “tilts toward both teen choice and adult mentoring. This means that teens [are trusted and respected and] have the autonomy of choice in a context where the adults play significant roles in teaching, advising, and coaching” (Sebring, 2013, p. 16). This means that, when learners need and want intervention and/or collaboration, they have proper access, in many ways.

At YOUmedia, many teens bring a passion, directed toward specific areas, while others develop an appreciation for certain topics. Engaging with the space and people – including mentors and other peers – helps create a positive and nurturing learning environment. Thankfully, YOUmedia provides the capability to informally connect, collaborate and build relationships, as a “large majority of the teens feel that they have a personal connection with a mentor, and almost all of the teens trust [and respect] the mentors” (Sebring, 2013, p. 42) as well as each other. Self-determined individuals excel, learn and achieve their educational targets at YOUmedia – and similar places – where trust and respect remain a top priority. As an example, Haddon, a teen who frequents YOUmedia, is,
heavily involved in two workshops: graphic design and gaming. Through these workshops and on his own, Haddon consistently produces written blogs, audio podcasts, videos, and graphic design materials. In these formal and informal activities, Haddon frequently learns from and works closely with adults [who trust and respect his learning process] and collaborates with other teens. (Sebring, 2012, p. 30)

Open and informal places of learning are integral pieces of the educational puzzle where diversity, curiosity and failure is encouraged and built into the learning process.

Additionally, Haddon and other learners like him understand that, sometimes, specialized skills are required to effectively and efficiently use some expensive and specific technological equipment. YOUmedia is filled with specialized and specific audio recordings and other digital media tools and is one of the main reasons many teens are attracted to the center. To fulfill their own educational mandate, learners like Haddon have a desire to use expensive and specialized equipment and, often, this access to specific digital recording equipment is critical. So, learners respect the fact that, sometimes, “more training in the use of the sound studio [for example, is helpful] and a certification system [sets up and] prepares the teens to use the expensive equipment” (Sebring, 2013, p. 18). The fact that YOUmedia can offer guidance and training for learners to properly use specific technology is a crucial step in helping prepare the next generation of self-determined learners to include themselves in an authentic way in the world. The trust and respect built between mentors and urban teens through these offerings contribute toward opening up new and different ways for these teens to express their interests and to follow their own educational agendas.
When a learner is free to follow his or her own agenda, and other dedicated people trust, respect, guide and mentor, learners feel safe and willing to experiment, explore and set their own agendas in motion. YOUmedia offers a balanced approach for youth and teens, as “the adults play a critical role as the conduit between teens’ interests and learning activities and projects” (Sebring, 2013, p. 13), if and when teens choose. There is no coercion for youth and teens to adopt one direction or another at YOUmedia but, rather, it establishes a balanced, trusting and respectful relationship between mentors and peers. If and when the need arises, mentors are present to step in and help less experienced learners use highly specialized technological equipment (for example) for their own purposes. Many teens report that they appreciate the fact that they are respected in this manner. Kayla, for example, reports that “she feels more optimistic about the world because there are adults who respect teens at YOUmedia, and she hopes that adult respect for teens can spread” (Sebring, 2013, p. 28) as she continues to take her experience and lessons learned at YOUmedia to other areas in her life. The hope is that the positive relational aspects of YOUmedia carry on, especially in places and spaces where young learners experiment and seek to establish their own learning agendas.

YOUmedia’s ability to offer teens a safe space where learners feel trusted and respected to explore and expand a personal educational agenda is a step in the right direction. At YOUmedia, self-determined learners can informally set their own pace and use technology, mentors and other peers to pursue and fulfill their own educational initiative. When real productive and meaningful work is front and center, and learners are trusted and respected to act appropriately with highly sensitive and sometimes expensive equipment, such as a dedicated recording studio that is in high demand in places such as YOUmedia,
learners respond appropriately.

**The Element of Access**

**Self**

Having access to technology and other resources is part of the reason why I will never stop learning. With technology, I find it easy to aggregate ideas and organize thoughts and notes through a range of devices that include my cell phone, IPad and tablet. In fact, with my tablet, it is easy to blur the lines between physical resources that help me learn and digital technology. My tablet includes a digital pen for instance, that allows me to literally write down ideas and draw up mind maps in digital form instead of traditional paper and pen, which can easily be damaged or lost. With technology, I easily store my thoughts, notes and writing virtually. Having the ability to save and access a digital archive of notes helps me organize, share and continue along different learning paths. With access to technology, I easily switch between different subjects and never lose track of where I left off because my information always travels with me. By storing and accessing information online, I am better able to focus on learning and gaining new knowledge, instead of spending needless time and effort at organizing notes and ideas – something I spent considerable effort at before I opted to include technology in my education as much as I do now.

For the most part, my preferred way to access important tools and connect with resources and other learners is through my tablet. It is one of my most used pieces of technology and it is how I regularly access different learning tools and platforms. With my tablet, I access OneNote, watch videos on YouTube, and connect with other learners on social networks such as Reddit and Slack app. What I appreciate most about accessing and
connecting digitally is that environments are highly decentralized, “people are highly networked, the tools of circulation and production are readily available, and it has become... [the] norm to share our thoughts, activities, and information regularly with a wide network of friends, acquaintances, and strangers” (Kahne, 2014, p. 12). Having positive experiences that follow this description increases my appetite and excitement to continue to push the boundaries of what I understand “accepted ways of learning” to look like. This helps me envision, create and form even more informal and unconventional paths of learning that further open up opportunities to connect and network. For example, I access platforms such as Reddit and Slack because these platforms lend themselves well to team collaboration and public consumption. I use Reddit mainly as a lurker (reading posts and comments without participating) and private messaging users when I feel it is suitable, appropriate and beneficial for my specific learning path. I gain a great deal of information this way and learn a lot through accessing subreddits that cater to my expanding interests. To network further, I view specific users’ histories to gauge their level of knowledge and expertise in an effort to determine if learning together would be beneficial. If I want to connect further, I private message the user and establish a more personal learning relationship with that one person. I prefer private messaging instead of creating a public post because it is more direct and I avoid hearing from just anyone who feels like responding (although under certain circumstances, hearing from a wide audience is preferable). In this way, I connect and access information in a more direct way. From here, we learn together by sharing perspectives, gaining knowledge from each other, mainly through back and forth debate and written conversations.

Slack works very similarly but on a more focused level. It uses mobile apps instead of
a website where people create and invite others to join specific Slack groups. Once part of a Slack group, all members are focused on the same topic, sharing and helping each other reach their intended goals in a chosen area or topic. Because Slack is more focused, due to the fact that all users are part of one focused topic, it is easier to establish relationships with other users and further share specific knowledge. In this way, Slack represents an invaluable informal learning channel that keeps me current in my fields of interest with others who play and learn in the same space. These unconventional, informal and technologically focused learning paths ultimately help me access, achieve and follow a personally meaningful educational agenda.

As highlighted, the majority of my learning routine involves accessing and connecting through my tablet. With it, I keep a digital journal of the most inspirational and interesting information – essentially, any new knowledge I aim to pursue at the moment or in the near future. The information contained in my digital journal varies widely and often includes blog posts, interesting discussions, contact information for people I would like to connect with and learn from further, explanation videos, visual diagrams, and even my own notes. Technology makes it easy to accumulate and keep track of these different sources of information. I don’t feel I would be as effective or efficient in pursuing my own educational agenda without tools that help “augment my brain” (Prensky, 2012).

Still, it is important to keep in mind that “it is one thing to passively use a website as a source of information, and quite another to actively use it as a learning tool” (Cornelli, 2010, p. 13). Although I gather what might seem like random pieces of information, I actively and consciously choose particular information to diversify the way I learn. One of the ways I actively diversify my digital learning experience is by mixing and altering ways of
communication to include a combination of written, visual and auditory expression – all through appropriate digital platforms. For example, I share and communicate through written forms when messaging on Reddit, while I use audio or video communication on Skype (even though written communication is available) because voice and video is the preferred method on Skype. Sometimes I need or prefer a visual aid. For this, I turn to YouTube clips to further solidify my understanding. I constantly choose different routes that help me access and connect with knowledgeable learners through “different communication forms [which] are utilized for different audiences and diverse purposes” (Grimes, 2012, p. 38). The option to digitally access and diversify my educational experiences is key to how I use and follow FUAL to steer my own educational agenda.

Accessing and using digital spaces, such as Reddit, YouTube, OneNote and Google Drive, each with its own set of functions and restrictions, has helped me learn about and evaluate how I can craft each learning space to suit my own needs. This exercise in critical evaluation and analysis is “aligned with those who understand that education can be a subjugating force in society, or a catalyst to human autonomy, competence, and community” (Ryan, 2009, p. 270). I constantly ask myself “What is it about digital spaces and access to each one that keeps me intrigued and returning?” Looking back, part of the reason I use and experiment with many different technologies is because I enjoy learning about new technology itself and the possibilities that technology opens up. I appreciate how different platforms and technologies can lend themselves to learners in order to shape their own approaches, informally and independently. Different platforms and software serve particular functions that allow for exploration through new modes previously unavailable. It excites me to witness how new technology expands and becomes a popular form of communication,
information and means of discussion. In this way, diverse learners engage in educational transformation and not solely educational transmission, as Miller (2010) points out. For learners such as myself, who are curious and motivated enough to experiment, technology can be a portal that opens up access to transform learning and pursue independent growth.

The reason I utilize diverse digital spaces for my education is because each caters to a part of my learning journey that I aim to fulfill in a particular way, at a particular point in time and for a particular reason. For example, I alternate from digital tools like OneNote and Google Drive because they offer slightly different methods of saving, archiving and storing. OneNote allows me to use my digital pen and creates a more natural feeling of traditional pen and paper. Google Drive, on the other hand, offers the ability to easily share documents with minimal incompatibilities. OneNote is more restricted in this scenario, so I access and use it more for private and personal archiving. Both technology platforms are easy ways for me to access, journal and archive different knowledge and allow me to easily separate topics in an organized digital collection in ways that make sense for me and my purposes. This is synonymous with “multi-access learning” (Irvine, 2009), where “it places the student at the center of the learning experience” (Irvine, 2013, p. 175). When I am at the center of my learning experience and have control over what I am learning and how, I am more efficient and able to focus.

My learning is efficient when I am able to self-select different modes of communication. Likewise, “in a world of global interconnection and rapid change, effective learning is lifelong and integrated into the real world of work, civic engagement, personal purpose and social participation” (Ito et al., 2013, p. 14). Like many others, I am able to
understand and learn best when I have options. These options include accessing, mixing and connecting learning through the different forms that I feel are appropriate and suitable.

The way I learn with technology, it is crucial that I am able to reach out and access bits of information that I can later pull together to connect and enhance my overall knowledge. This learning routine helps me explore – through informal instances – my own interests, which may not necessarily be a focal point through more formal education. It is problematic when

the lack of opportunities to try out different talents and interests than the tested subjects as a result of exclusive focus on education, that is, schooling, in essence deprives the creative and entrepreneurially talented the chance and resources to discover their potential, let alone developing them. (Zhao, 2012, p. 120)

Following my own agenda and learning informally with technology has allowed me to try out, test and engage in Full Access Learning. The essential aspect is that I actively participate and create my own learning with as wide a network as I need, can develop and access.

**Coco Kaleel**

Through her actions and dedication on http://veryhappyrobot.com, Coco Kaleel shows that she understands the value and importance of accessing and connecting with people and resources in an effort to carry out her own vision and style of learning. Coco makes use of various platforms besides her website – she has a Twitter account – where she promotes her ambitious efforts at staying in the loop and at the forefront of technology. In fact, Coco’s @veryhappyrobot Twitter handle description reads “Teen roboticist +
programmer + maker / Speaks @ conferences / Teaches soldering classes / Loves technology + 3D printing / Founder of veryhappyrobot.com” (Kaleel, 2016). And, at last check, Coco’s Twitter account had 100 followers and she was promoting her own conference speaking engagement at Classroom 2.0 Live, occurring on April 9th, 2016 (Kaleel, 2016). How are these actions benefitting Coco, especially at such a young age? As a young teenager and an 8th grader, Coco is perfecting the use of technology to access and connect in a field she is passionate about. She is encouraged to participate, voice her opinion and seek access to others in her field – a goal she pursues with technology. Through these actions, she successfully enhances her formal educational curriculum with an informal pursuit – one she decides upon, implements and alters as she wishes. In this way, Coco determines and directs her educational efforts and is able to satisfy her curiosity by following a FUAL approach, as she creatively selects appropriate and meaningful learning opportunities. Her efforts continue to pay off as she constantly connects, collaborates and accesses important individuals who become part of her widening network of mentors and peers.

Technology is Coco’s medium and with her website, http://veryhappyrobot.com, Coco positions herself as an authority figure in using, accessing and tinkering with technology for herself, her peers and others. Through her website and Twitter account, Coco allows others to connect with her and each other (through messaging and commenting) which opens up yet another platform and learning space for people with similar interests to informally follow their own educational agenda – all while Coco, herself, follows her own educational agenda. Consider this short dialogue on Twitter as an example of the access and connections that can occur with technology and how it helps Coco access and expand her learning community.
Bridgette Mongeon, @sculptorwriter, “Anyone have contact info on Coco Kaleel the 12[-] year [-] old that is doing 3D printing? I want to feature her in my lecture on women and science.” 10:53am – 7 Feb 2014.

Additive Crafts, @additivecrafts, - 10 Feb 2014. “@sculptorwriter veryhappyrobot.com You are welcome :)”

Bridgette Mongeon, @sculptorwriter, - 12 Feb 2014. “@additivecrafts you rock! Thanks for finding Coco I hope to feature her next weekend at a lecture on young women in math and science.”

Additive Crafts, @additivecrafts, - 12 Feb 2014. “@sculptorwriter All the very best ahead. Share a link of the lecture later. Coco needs to be encouraged for being such a techie at her age. (Mongeon, 2014)

These types of informal connections are not out of the ordinary, especially when technology is in the mix. “A defining characteristic of online social networking sites is their support of participants’ communication with one another” (Grimes, 2012, p. 37). In fact, technology and platforms such as texting, Twitter, Instagram and, now, more recently, SnapChat, are representative of how the younger generation communicates, accesses and shares with one another. In essence, informal educational places and spaces have been “updated with [the] types of technology that are already familiar and natural to current generations of children and teens” (Eisenberg & Pares, 2014, p. 345). This is in line with the knowledge economy’s 21st century desired skill of creatively communicating with one another and collaborating in innovative ways to accomplish personal goals and tasks (National Research Council, 2012, p. 32).
Sylvia “Super-Awesome” Todd

Sylvia “Super-Awesome” Todd – with help and encouragement from her father – has managed to leverage her fun personal experiments into a multi-platform environment where she cultivates self-selected educational relationships. Sylvia started with her YouTube account, then branched out to include a website and blog at http://sylviashow.com. Sharing through these technology outlets, Sylvia has managed to access influential people in her field of interest and cultivate relationships that have, so far, led her to creating a book series. Sylvia is the author of Sylvia’s Super-Awesome Project Book, now on its second volume. The goal of FUAL is to help enable these types of personal goals and achievements, while recognizing the informal learning experiences and opportunities inherent in reaching these milestones. Technology represents one of the most productive ways to personally direct and achieve specific learning targets, as “many technologies for learners are Internet-based new media tools” (Halverson & Shapiro, 2012, p. 15).

For Sylvia, it is evident that being open and allowing others to access and contact her has and continues to pay off tremendously. Sylvia has gained a loyal following through her multi-platform approach and is succeeding in her goal – “influence others to play with and make their own technology instead of just buying it” (http://superawesomebook.com/sylvia/). Through an open approach that mimics Full Access Learning, Sylvia, has been featured in numerous influential publications and articles including “Boing Boing, numerous documentaries, various newspapers, stories in the New York Times, People Magazine, Muse and ABC World News (Todd, n.d.). The involvement, recognition and open access with current influencers is critical to the learning circles and interest groups Sylvia wants to, is, and continues to be associated with. As Halverson & Shapiro (2012) state, “technology is
designed to aid the user in choosing goals, as well as providing compelling and entertaining means to achieve the goals” (p. 15). Sylvia is quite experienced at practicing this mantra by choosing what areas she wants to focus her learning on and by using technology in ways that will help further her specific goals in chosen content areas. To further illustrate how technology is used by individuals – in different ways – to follow a specific educational agenda, we can look at one of the largest social networks currently available, Facebook. “There is no successful use, for example, of Facebook. Rather Facebook serves a wide variety of user goals” (Halverson & Shapiro, 2012, p. 15). And this is true of nearly all self-developed and self-determined informal learning routes. Further, this is a great metaphor of how I, Sylvia and other self-determined learners decide to bring learning to life for ourselves in meaningful ways.

Sylvia expertly focuses on following her interests and passions and letting them guide her experiences. These experiences lead Sylvia to experiment in ways she feels are fun and exciting. Often these experiments involve technology and collaboration with others, which is what helps Sylvia progress in her own way. Accessing “infrastructures that encourage young people to share their work, skill, and knowledge with others across networks, groups, and communities boost learning and social connection” (Ito et al., 2013, p. 80). Sylvia accesses mentors in the field who provide informal learning opportunities that help and lead her to push forward in creating, developing and producing learning experiences in unique and independent ways.

**Urban Teens**

YOUmedia is set in the central Chicago public library, close to transit where a good majority of urban youth and teens can have easy access to the facility. “As Learning
Laboratories are established in this city and others, location will be a critical factor” (Sebring, 2013, p. 24). Close proximity is essential as teens look for places to attend that allow them to participate, learn and be part of the world in their own ways. Also, access to facilities such as YOUmedia allow greater collaboration and connection between learners with similar interests and where using specialized technological tools and equipment can take place, as YOUmedia is equipped with high end technology to facilitate a diverse array of interests. “It has a range of digital production equipment, from a sound studio to video and still cameras, to banks of computers equipped with video and photo editing software” (Sebring, 2013, p. 8). At YOUmedia, there are many options – all in one location – for learners to follow their interests and connect with the larger world, a feature that repeatedly draws urban youth and teens to the facility. Moreover, the availability to use specific technology “such as social networking, video gaming, Wikipedia, Google, fantasy sports and mobile devices flourish by serving the needs of their users” (Halverson & Shapiro, 2012, p. 15). This, in turn, helps learners build and extend their influence in important and influential digital formats. The self-determined urban youth and teens who really benefit from YOUmedia, dedicate time “and choose to stay engaged as long as the culture helps them to address desired outcomes” (Halverson & Shapiro, 2012, p. 18). Whether teens want to compose digital music or immerse themselves in digital art and photography, YOUmedia offers teens a safe space to carry out their informal creative efforts, and, are encouraged to do so.

It is evident that self-determined learners can progress and produce creative and innovative solutions, while continuing to efficiently and effectively explore their curiosity at YOUmedia. For example, “the group of teens who use the recording studio. . . become certified. . . [and] have access to the recording studio” (Sebring, 2013, p. 49). This enables
blogs, podcasts and other digital and technological creations to be pursued. This type of real access to technology and other resources, including mentors and peers, help self-determined learners truly follow their own goals. What emerges is self-determined learners setting themselves up to succeed in their own ways and for their own purposes. YOUmedia is an example of a place where learners can informally and autonomously use appropriate and desired equipment to create pieces such as their own recordings, podcasts and musical renditions. The equipment and technology is available, and self-determined teens at YOUmedia take the initiative to step into themselves and act. For example,

Prior to coming to YOUmedia, Haddon was actively pursuing his interests in video games and computers on his own, mostly using the internet to learn new skills. However, through his participation in formal and informal activities in the space, Haddon learned a variety of digital media skills. Through the graphic design workshop, Haddon learned how to use Photoshop software to create and edit images and how to use electronic tablets to create graphic design projects. The video game workshop provided Haddon with technical skills for creating a podcast. Developing a new, more critical way to discuss video games has improved his writing skills and helped him with presenting information to an audience. He states that YOUmedia increases his interest in technology by providing a space to connect with others who have the same interests. (Sebring, 2013, p. 31)

In this respect, YOUmedia represents a safe space where learners of all ages can personally connect, gather resources and share experiences together in a quest to further their own specific goals.
Spaces like YOUmedia, Maker Spaces, hackathons and online social networks, blogs, videos and podcasts, open up access and help facilitate, build and extend creative and collaborative educational relationships. This is necessary to enable the next generation of learners to function in the knowledge economy. The knowledge economy encourages individuals to expose and express themselves in different ways that include engaging with collaborators, problem solving and thinking critically and creatively – all assets associated with the knowledge economy (Sawyer, 2006). By extending scenarios where learners have options to use technology and connect with others, a critical, creative and innovative mindset can be exercised and applied. YOUmedia provides a space where many different connections and personal growth can occur, both alone and with others, as each learner decides.

As well as the wide access teens enjoy through YOUmedia, they also appreciate the level of autonomy. “Interviews with teens revealed that choice seems to set YOUmedia apart from many other out-of-school options” (Sebring, 2013, p. 17). This signals that self-determined learners are searching for and in need of places where they can self-select their level of involvement while, at the same time, have access to needed technology, resources, mentors and experts to pursue personally meaningful learning opportunities. YOUmedia, Maker-Spaces, hackathons and other similar places are informal learning environments where each learner has the ability to be as autonomous or collaborative as they choose. This is part of the magic that entices self-determined learners to stay connected and is part of the active, vibrant and energetic atmosphere. In this way, learners continue to expose themselves to a more diverse learning community. This is the fuel behind Full Access Learning; the ability to dip in and out of a variety of learning environments in an effort to pursue one’s own learning agenda. Further, self-determined learners appreciate spaces where they are respected.
and can gain autonomy to pursue learning at their own pace. YOUmedia is unique in that it offers urban youth and teens in Chicago a place to access, explore and connect in such a wide variety of ways – alone, with technology and/or with others. As Haddon further illustrates, “I have access to things that I couldn’t have used before to get what I need to get done. And now I feel like what was already within me has been exposed to me or revealed to me, and now I’m using it” (Sebring, 2013, p. 31). Each important component of Full Access Learning can come together in this open and mixed use educational facility. Mutual collaboration is encouraged and learners are trusted to conduct themselves in appropriate and productive ways. At the same time, adults and other learners share the space and are present to offer suggestions, support and demonstrate through a hands-on approach. Each individual learner decides his or her own educational journey by creating and following his or her own Full Access Learning approach as it fits into his or her own life.
Chapter 5

Study Significance

New and experimental learning with technology represents a way to live and grow in today’s evolving world. Finding and using new tools and resources to learn is part of being in the world in real and relevant ways. As learners gain control of their own learning, formal modes of schooling may become subjected to a re-evaluation. According to Giroux (1999) "the most important form of education fosters self-reflection and public responsibility" (p. 54). When learners feel they are part of the world around them and what they think and do makes a difference in the world, inspirational opportunities and experiences can develop. Technology helps bring different opportunities, experiences and learning to life. As Zhao (2012) further illustrates,

Digital technologies have freed us from being constrained by the physical aspects of our world. As a result, physical co-location and presence have become nonessential for many human activities. For example, we conduct banking transactions without going to the bank, exchange ideas with others without being in the same place, or take classes without going to the physical campus. (p. 58)

Education, in many mainstream schooling systems is often tightly controlled and may not be ideal for some learners. Other suitable options and pathways to learn that are ideal – as identified by learners themselves – can be part of legitimate ways of growing, discovering and learning. To illustrate, Chan, Brown and Ludlow (2014) recently studied opposing views of institutional and student perspectives on the purpose of higher education. They reveal that
institutions have a broad, idealized outlook on how education can benefit learners, while actual learners themselves have more personal and specific goals, aims and achievements regarding education. In essence, institutions have goals which may not suit actual learners. As John Goodlad (1999) identifies, while the pursuit of knowledge remains just one purpose of education, schools should also "reform" for the purpose of maximizing "opportunities for each student to lead a good life and exercise the duties of citizenship" (p.98). I would add that informal self-determined learning helps in this pursuit, increasingly (but not exclusively) by utilizing tools such as technology. Thus, learning does not always need to be associated with formal schooling. As Lyotard (1984) shares, "the notion that learning falls within the purview of the State, as the brain or mind of society will become more and more outdated with the increasing strength of the opposing principle" (p. 5). Technology is bringing this concept closer to fruition.

Education may better serve independent learners if divergent learning and individual curiosity and creativity are further encouraged. “Cramming” for an upcoming test to satisfy a curriculum created and imposed by others who may not have a connection with individual learners is not ideal. "Both the generational divide and the divide between in-school and out-of-school learning are part of a resilient set of questions about adult authority in the education and socialization of youth" (Ito et al., 2010, p.2). Through self-determined learning and technology, education is cast in a transitional state that substitutes formal learning with informal learning opportunities. "As in any transitional moment, any time the paradigms are shifting, how one learns becomes as central an issue as what one learns" (Davidson & Goldberg, 2010, p. 184). The method of learning facts and figures and being assessed on the ability to reproduce “right” knowledge from an externally imposed curriculum is frequently
being questioned. "Discovering how to support the imaginative possibilities of smart mobs, as Howard Rheingold insists, and to avoid merely replicating older, proprietary institutional models" (Davidson & Goldberg, 2010, pp. 184-185) is a focal point for today's education. Integrating democratic and informal learning can play a significant role in this effort.

I echo Davidson & Goldberg's (2010) interpretation of learning when they say that "the single most important real estate for the future of learning is that of the imagination" (p. 184). As Chomsky (2000) encourages, “true learning takes place when students are invited to discover for themselves” (p. 28) and become active participants in the world around them. In the 21st century, with the ability to share and communicate through the Internet, learning can shift from a formal institutionalized process to a more individualized, blended and balanced model that includes informal learning experiences that can be accessed and shared through modern tools and technology. If the purpose of education is to bring out the best of each learner’s ability, creativity, and self-worth in ways that foster respect and happiness, having control over the direction of one’s life – including learning experiences – is key to that process. My experience of learning and gaining knowledge through an informal and self-determined approach that includes technology may be informative and may offer one more example to add to the literature on informal learning with technology.

Overall Themes

It is important to recognize the value of including different participants who publically share their efforts to learn in unique ways in this autobiographical study. It is quite easy to find similar examples of even more learners crafting and creating their own learning agenda online, especially when much of the activity is perceived as active learning, experimenting or pursuing creative and curious opportunities. A critical eye toward opening
up learning in ways that challenge what learning currently looks like can be an inclusive strategy for education as a whole.

Some similar themes that ran throughout all participants in this study was the fact that we were all self-starters. Naturally, a self-determined approach towards education necessitates the desire to start down a chosen path. Once we chose to experiment with informal education in our own unique ways, it was natural to actively engage and include ourselves in the learning communities each learner independently connected with in ways we each felt comfortable. It is important to acknowledge the creativity and imagination sparked by these actions.

Also, each participant was and is an adept user of technology to some degree. From that, we were able to navigate the terrain and become increasingly skilled in our chosen direction. Selecting our own ways of engagement, each participant was able to take feedback from our respective learning communities as a form of motivation to learn more. It is also important to note that the younger learners, namely Coco and Sylvia, had a lot of home support in terms of mentors, tools and people to support learning. Both Coco and Sylvia had active and engaged fathers who each strived to provide as much access and varied ways of interaction as possible. Both fathers are key participants in their daughters’ overall education and marvelously exhibit essential principles of FUAL in action.

In terms of the teens in Chicago, they had access to their own supportive mentors that were available to help guide, nurture and share in the learning process. As an adult, I required less mentorship in this way, but I also had access to similar support when and if I needed through technology and informal means. And of course, having the tools – such as technology, internet access, able and willing parents and mentors with time to actively
support independent and informal learning – stays at the heart of being able to follow a FUAL approach.

**Supporting Marginalized Learners with Technology**

With informal and self-determined learning through FUAL, efforts are continuously made to steer clear of structurally reproducing inequalities, such as public competition, inherent with traditional formal schooling. “Non-formal education could promote the participation of members of marginalized groups who, for a variety of individual and structural reasons, do not tend to participate in public deliberation spaces” (Schugurensky & Myers, 2008, p. 92). This is part of the reason why Shapiro (2014) makes a convincing case for creating participatory discovery networks. He argues that, through participatory discovery networks, learners have an explicit intention of helping each other – regardless of age or expertise. There is a sense of shared culture and practice where everyone contributes. This may mean young people contribute different types of expertise; however, what remains clear is that a premium is placed on the creation of experiences that invite participation and provide many different ways for individuals and groups to contribute. There are roles and supports for teachers, mentors, and outside experts to act as translators and connection-builders for learners across domains and contexts. Barriers to entry are low and there are opportunities for participants—especially new participants—to lurk and leech (i.e. observe and borrow). Peer-based exchange, like communication and sharing, are made easy and reciprocal. A diverse set of resources are used to support teaching and mentorship activities in this process (Ito et al., 2013, p. 79).

Technology is effective for these types of learning approaches and will increasingly “shift between using technology to support the individual to using technology to support
relationships between individuals” (Brown, 2000, p. 20). Relationships and our ability to connect are the essence of participatory (or social) learning. As time progresses and the idea of learning through self-determination with technology spreads even further “we will discover new tools and social protocols for helping us help each other, which is the very essence of social learning. It is also the essence of lifelong learning” (Brown, 2000, p. 20) and will further contribute toward ethical and sustainable ways to learn.

**Toward Ethical and Sustainable Learning**

Placing the learner at the center of his or her own education helps personalize learning and helps guide learners to pursue learning in less restrictive ways. It is very liberating to understand and realize that I have the ability to connect with whomever I decide to learn with. The responsibility to determine my own educational direction helped me endure the apathy I had accumulated around learning when I had little to no control over its direction or implementation. When a learner controls and directs his or her own initiative, the opportunity to partake in ethical, sustainable learning become available. Ethical learning helps develop “one’s own identity and lived experience, communication behavior and conduct” (The Aspen Institute Task Force On Learning and The Internet, 2014, p. 70). Experimenting and incorporating more non-traditional learning becomes easier and less risky when one is able to explore diverse options around such learning opportunities. “If students are going to be able to assemble their own learning resources to create a personalized customized curriculum for themselves, they need the widest possible access to these resources and the ability to combine and 're-mix' them” (The Aspen Institute Task Force On Learning and The Internet, 2014, p. 62). In doing so, learners are free to choose a combination of formal and informal learning, face-to-face and digital interactions. Any
combination of learning that best fits an individual and supports progression toward his or her own goals provides an opportunity for an ethical and sustainable education. Democratic, self-determined learning initiatives create these opportunities and, by the same process, encourages life-long learning.

Looking back, it is clear that determining my own educational goals is how I was able to combine different ways of learning that made sense in my life. By learning how to learn on my own, I slowly refined my approaches until I felt productive and happy with my process. In my experience, what has worked best and helped bring back the joy of learning was using technology to explore, implement and propel my education at a much more comfortable pace and on my own terms. I still follow the same routine of learning; establishing a topic of passion, researching through technology and then slowly uncovering information in an effort to gain further exposure. I follow my FUAL approach through all available resources, including digital and face-to-face interaction in informal situations – as I, the learner, deem appropriate.

**Conclusion**

A balanced approach toward one’s education involves following personal interests and gaining experiences that will develop competence. Informal experiences can ground learners in mindful ways when pursued through self-determined learning. As Yong Zhao (2012) points out in *World Class Learners: Educating Creative and Entrepreneurial Students*, one needs to only look at Asia as an example of what a too tightly controlled educational system can lead to. While it is true that Zhao (2014) identifies teenagers in China as great test takers who consistently perform well when pitted against other countries around the world in standardized testing, it is a vision of education that robs individuals of any
chance to differentiate themselves from the mandated curriculum and leaves little to no room for participants to appreciate their own visions of themselves. We cannot follow in the footsteps of controlling and mandating highly competitive and narrowly focused educational goals. We must realize that the 21st century is a different world that requires an increasing number of creative and innovative people to help envision and implement new directions for the modern world. We can learn to appreciate and accept informal approaches as a legitimate method of discovering, growing and learning. With technology, learners can now more easily pursue democratic and personal learning while integrating different experiences into coherent and practical solutions to their perceived issues. I utilize this approach to informally direct my own learning through technology. As well, an increasing number of learners are also quietly pursuing their own educational agendas (Davison & Goldberg, 2010), as technology helps interested individuals learn in different and informal ways. Naturally, all learners connect the dots in their lives in slightly different patterns. Thomas and Pattison (2007) share how even, “different children can take different things from the same environment and…the same background can nurture different learning trajectories” (p. 40). Informal, self-determined and democratic learning experiences can also facilitate different patterns and trajectories in a more complete and connected fashion. Likewise, I have made connections through technology and met others in digital spaces that I would not have otherwise met or learned from because of a wide variety of factors including differences in schedules, countries we live in and lives we lead. Coming together through digital means allows these barriers to be broken down and like-minded individuals may work together in new and exciting ways.
In fact, studies linked with Shapiro (2014) highlight key elements regarding how people learn. These elements explain how motivation matters and that learning follows a constructivist model; that is, we learn in bits and pieces and put it all together later in a coherent form. “We build small networks of [knowledge] concepts that can be contextually activated” (Shapiro, KMDI Toronto, 2014). In this way, “students have the opportunity to participate in the challenging, messy, collaborative, and open-ended processes” (Ito et al., 2013, p.39) associated with learning. And so, it is evident for self-determined learners, such as myself, that learning is not always about following a predetermined or predictable path; it is messy – and this is a good thing – it is an important element for growth. This represents a more natural progression of knowledge accumulation. “Educational practice does not display its highest virtues in uniformity, but in nurturing productive diversity” (Eisner, 1991, p. 46).

Indeed, as stated above, the ability to pursue meaningful, and I may add, informal, education represents an ethical way of learning (Shapiro, 2014). However, on top of being an ethical way to pursue meaningful learning, I would add that self-determined learning with technology is also a more sustainable learning model. “We need to create structures and supports— from hands-on tools to open peer-to-peer systems to curricula—that mobilize the gains in imagination, creativity, and hope that our interactions with mutable, variable technologies animate” (McPherson, 2007, p. 13). We can accomplish this task by reducing boundaries and opening up access to people, places and tools that are useful in people’s lives. By placing the learner at the center rather than at the periphery of educational instruction, a commitment to life-long learning can be more easily established.

Currently, within many school boards, learning in novel or unique ways with technology is not entirely encouraged, unless approved, controlled or supervised. However,
"students need to become multiply literate and focus on diverse spheres of learning" (Giroux 1999, p. 167). It is somewhat contradictory to speak about helping young learners be productive, happy citizens while curtailing their efforts to reach their fullest potential in ways that excite each participant individually. A brighter vision for the future of education is shared by McPherson (2007);

If we hope to realize the promises of participatory media and if public education is to remain relevant to students, we need to develop innovative models of multimedia pedagogy for K-12 and postsecondary learning in and out of the classroom, closing the loop between what students do for “fun” and how and what they learn in school. This means that we need to advocate for systemic changes in how we think about education, learning from grassroots practices that are already having success. (p. 15)

One of the most profound qualities that enables learners is a desire to learn via their own distinct journeys, engaging with information and relevance through tools, including the internet and its many social platforms. Bonnie Stewart (2013) shares that,

The capacity for networked interaction may itself be subject to network effects and, therefore, scale and encourage a digital literacies ethos of distributed expertise, increased peer-to-peer participation, collaboration, and knowledge generation. (p. 236)

Informal learning can contribute toward a more distributed and democratic model of education, one that shifts the focus toward a more sustainable learner-centered model.
Full Access Learning (FUAL) emphasizes a learner-centered democratic approach toward learning that includes – but is not limited to – informal learning experiences and opportunities in both digital and non-digital formats. By utilizing a Full Access Learning model, individuals can pursue learning in different ways based upon their own visions of education, following individual curiosity and interests. Full Access Learning understands the importance of a constructivist approach toward learning; as life evolves and new knowledge and information is accessed, a learner can turn gained skills and experiences into opportunities. Thus, individuals pursue their own passions in their own ways with the help of technology. The net effect is that society benefits from the efforts of more divergent thinkers and doers. With self-determined learning and technology, learners can have greater control to direct themselves through informal, democratic and open routes to fulfill a more personal voyage of learning.
References


Fryer, W. [wfryer]. (2016, April 9). Live webinar now on @liveclass20 #liveclass20 with @veryhappyrobot http://live.classroom20.com [Tweet]. Retrieved from https://twitter.com/wfryer/status/718832366936924160


IoT4Kids. [IoT4Kids]. (2016, May 20). *Look who just stopped by #owatch at #MakerFaire, it’s the amazing @MakerSylvia* [Tweet]. Retrieved from https://twitter.com/IoT4Kids/status/733777268711923712


Mongeon, B. [sculptorwriter]. (2014, February 7). *Anyone have contact info on Coco Kaleel the 12 year old who is doing 3D printing? I want to feature her in my lecture on women in science* [Tweet]. Retrieved from https://twitter.com/sculptorwriter/status/431863247495770112


SuperAwesomeSylvia. (n.d.). *SuperAwesomeSylvia.* Retrieved from https://www.youtube.com/channel/UCKUaaSvg7mLCU-b0lhJMrz-Q


