

THIS IS WHAT I DO: DIGITAL MUSIC TECHNOLOGY
AND EXPRESSIVE ARTS THERAPY

A Thesis

Submitted by

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Abstract

The purpose of this study is to take a deeper look than in previously published studies on digital music technology in order to better understand what digital music is. The research takes a hands-on approach with as many technologies as possible, including but not limited to various Korg Kaoss tabletop touch synthesizers, Roland Loop Station, Ableton Live, Max/MSP, and Max for Live. As part of this study the author introduced these technologies to underserved youth in a mobile arts therapy program and to graduate students studying expressive arts therapy. This study found that digital music technology can be accessible to practitioners as well as complicated, no different than any of the arts. The response to a selection of digital music making devices and software by myself and research participants was noted in the findings chapter. Over the course of this research, the author also developed a prototype instrument named the “Digital Drum Circle Interface.” This custom modified MIDI controller consists of 16 handheld wooden cylinders, each with an arcade button that when pressed triggers a multitude of musical parameters within the Ableton Live and Max for Live software. In conclusion, this study offers practitioners a look at an array of digital music instruments, what they do, and how they can be used as expressive arts therapy.

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CHAPTER 1

INTRODUCTION

A child said What is the grass? fetching it to me with full hands; How could I answer the child? I do not know what it is any more than he. I guess it must be the flag of my disposition, out of hopeful green stuff woven.

Walt Whitman¹

The purpose of this thesis is to take a discerning look at digital music technology in order to gather information regarding its validity as a tool for promoting psychological healing within an *expressive arts therapy* framework. Almost every aspect of our global culture has become embedded with computer technology and some people might believe this is to the overall detriment of society while others might believe that these advances are enriching our society. My goal is not to prove one side right and the other wrong. Computers and technological development are here to stay, therefore the important question is, how can they be used for psychic healing? This thesis will take a look at my experience with digital music technology and explore its possible potentials and pitfalls.

The primary reason to attempt this inquiry, has to be money. Why have I attended a very expensive private not-for-profit university taking on several hefty college loans in the process? It is not just to further my personal growth and development, even though this does play a significant role. The major reason is to create a strong foundation for future professional gain, in others words to find gainful employment. I do not have endless fortunes to finance my dreams and without a career and a decent job, it becomes difficult to meet basic needs, such as a roof over my head and healthy food to eat.

How does writing a thesis contribute to financial gain? Are prospective employers going to read my hundred page thesis as well as my resume and cover letter? Probably not, but there are a

¹ From Whitman (1982), pp. 192-193.

number of scenarios that I daydream about. For example, this thesis could be someday be published in book form, that in its own might not equate to a large sum of money, but the exposure could lead to future engagements and well-paid work. It could help lead to acceptance into a fully-funded PhD program, which would eventually lead to a higher salary and steady work. In some ways I see this thesis as a symbolic business card. However, once the rudimentary needs of career and compensation are met, there is something else; my hope is that this thesis will help mold and sculpt new ideas that will eventually lead to more effective expressive arts therapy and better services in the helping fields. I will be the first to admit that the professional of mental health counseling, which currently includes expressive arts therapy, is struggling in this time of global economic transition. I have personally witnessed small family owned agencies as well as large institutions struggle to stay afloat as insurance premiums go up and reimbursements fall. I have seen state appropriations committees make cuts in rates so drastic that make it impossible for treatment centers to meet state and federal regulations. Some say that this is necessary, these cuts are good, because in many cases the services being provided were sub-par. In many ways, I have to agree. How do we stay viable? I believe we as mental health practitioners need to ask, if we haven't already - how can we be more engaging? How can we be effective change agents? By attempting to find these answers the field will only become stronger, therefore, providing better and more stable job opportunities for all therapists. I want to prove my worth as an effective and worthy expressive arts therapist and I feel very strongly that this thesis is an effective platform to present myself and what I do.

This thesis has provided unique experiences that make the effort worthwhile, contribute to my own well-being, and could eventually lead to exciting and challenging opportunities. The master's thesis becomes another vocational opportunity, no different than the tradition internship experiences that are rites of passage for counseling students and oftentimes lead to employment.

Critical Questions

What can we know within the limits of human understanding? No matter how hard we want there to be absolute certainty, it does not exist. God knows; we don't, and who is this God? I can be certain of so many things, but none of these things are real. Everything boils down to a muddle of chemicals and hormones; this inundation of aesthetics tells us nothing, but we feel something, we see something, we touch something, what is it really? Truth surely cannot be explained with language.

What am I trying to change? If a client comes for treatment and a counselor discovers that the origin of the problem connects to the home, are we responsible to treat the home also? What is it that I am treating? Whom is it that I am treating? Do I ponder why I exist? No, I can somewhat understand the critical anti-fictions of my natal rescue and subsequent development. Is my development culturally or biologically dictated? What is it nature or nurture? Can it be both? These types of questions don't solve anything here. What I ponder is an entirely different question. How am I going to survive in the world? I need less of an explanation of why we are here; I need more an explanation of what to do.

Why is this topic important? Why digital technology? Why music? And where does hip hop fit in? Why all these divisions – art therapy, music therapy, dance therapy, poetry therapy, drama therapy, psychotherapy, analytical therapy, cognitive behavioral therapy, dialectical behavioral therapy, motivational enhancement therapy, radical psychology, psychoanalysis? Are evidenced-based treatment modalities the only effective treatment? Is this a compartmentalization - a defense mechanism, just like the pathological divisions a maladaptive client might have included in their mental health diagnosis?

The experiences and memories, the immeasurable mini-theses of my life must live in harmony with scholarly research. Who I am as a person, as an artist, as containing multitudes, cannot be extricated from this thesis. Hand in hand I go, self as instrument, with other's books and journal articles - sometimes striving to leave no stone unturned, other times letting sleeping dogs lie.

As I will show in the literature review, the theories and applications of expressive arts theory

integrate and unify the arts. Can we take this a step further? Can we unify the current trends in society with the current practices in counseling? Is using technology with techno-savvy clients an important part of establishing a healthy client-counselor relationship? What are the side effects of technology? What is the psychological impact of today's computer driven world? Before I attempt to answer some of these questions, I would like to introduce some of my own origins.

1st watercolor painting.

I don't know what was different that day, maybe boredom, maybe some hidden emotions. An urge surfaced from that swirling ocean of the unknown. It wasn't a totally unfamiliar impetus, so I said hello to it. I was somewhere in my high school journey at this point. I attended a parochial college preparatory high school focused on sports and reading, so this could have been considered a somewhat strange urge for a varsity letterman athlete.

What was this urge? The urge to be an artist. The first step was to gather my materials. I collected everything that I needed to fulfill this impetus to be an "artist". I grabbed a piece of computer paper from the printer in the hallway and a cheap watercolor set from the junk drawer. Did it all come together? Did I create a masterpiece filled with my teenage emotion and a new found talent? Was something beautiful hidden inside of me that would change everything? Would the pain of the past go away? Would the phone ring and would it be that girl I had been day-dreaming about in class?

Before I answer this question I should give a brief explanation of my process with this plastic box of dried out pigment and rough bristled brush. Without any theory or technique, just raw expression, I filled the paper with vertical stripes of all the colors contained in that set. Harmonious and complementary blades of grass, maybe this was the entrance to a deep and dark jungle. I remember sitting at my desk, a place for thinking and planning that went back to my tender elementary school days. I sat there, in my bedroom painting until I felt it was finished, finished only meaning that the entire page was full. I remember thinking about how excited I was to find out how it was going to

look after the paint dried, somehow the drying process was like magic that would fix everything. I still love painting into the evening hours and then waking up like a kid on Christmas to run and see what I created. It is not over until the paint dries.

As an adult fairly well versed in art history, contemporary fine art, modern art, and the postmodern condition. I now see that this was an early attempt at creating a liminal passageway- an entrance into the jungle very similar to a painting by one of my favorite Frenchmen, le Douniaer (Henri Rousseau). When the paint was dry I remember feeling disappointed that the paper had buckled and wrinkled. I remember squinting and looking at my painting, referencing my memories of art and paintings. Could this be the work of an artist? Somehow squinting allowed me to compare this painting with other paintings. Does it fit? Does it make the cut? It wasn't until well into my undergraduate experience that this inner voice, this urge, came back.

Early bookbinding, “art without ego”

When I was twenty years old I sold antiquarian books and rare maps in one of those quintessential New England bookshops - an old, creaky ship captain's mansion full of glass display cases and rooms of old and rare books. One of the specialties of this shop was two rooms full of art books and this is where I got my first art history education. In between polishing leather bindings and taking digital photos for online sales, I would go into these rooms and stare at the spines of all these books. When one looked interesting I would pull it off the shelf and go through the images. I hardly knew any of the artists and tried to absorb as much of this information as I could (without getting in trouble with the proprietor).

Running concurrent to this experience was being an undergraduate at a large state university studying for a bachelor's degree in English. For years, I would sneak off to the library in between classes and read in the periodicals room. I would grab the French newspaper, *le Monde*, and walk up and down the rows of the periodicals looking for journals that might interest me. This is when I

discovered art magazines. So the combination of a well-established art book collection, fine arts-literature hybridism (think ee cummings) in my reading, and contemporary art magazines gave me a passion for the arts that has lasted to this day. My destiny was to become an artist, but I had never taken an art class. Then I received an opportunity to learn how to become a bookbinder at the oldest bench-bookbindery in the United States. I learned to bookbind, but the apprenticeship didn't work out.



Figure 1. Threshold of the Old Pink Schoolhouse and Gallery, Taos County, New Mexico.

I was an artist, a poet, and a bookbinder. I ended up in Santa Fe, New Mexico with one duffel bag and some money that I had saved. New Mexico had art colonies, and if the world was going to war post 9-11, I felt safe living deep in the Rocky Mountains. Finally, I was a real artist. Several months later, I purchased a quarter acre of sagebrush in the Rio Grande Valley outside of Taos and was living in a tent waiting for spring. I was down to my last twenty dollars, so, I started to make a book. It was the first piece of art I had made since I had become an real artist.

It was a little book, patched together from scraps of leather, and a small piece of jaguar fur I had traded an Indian for in the Santa Fe plaza. When I finished the book, I walked out of the sagebrush encircled camp, down the only road. At the crossroads, about a mile away, was a gas station and an odd pink building with the words “art gallery” painted on the side. I walked down the dirt road that led to the art gallery. The door (see figure 2) was closed as it was almost dinnertime. A large bronze bell with a note that said “ring me” was hanging above my head. When the owner finally opened the door, I became surrounded by his pack of dogs. He asked in a unfriendly voice what I wanted (I can only imagine what I looked like seeing that I was living out in the middle of the desert with no running water). I told him I had made this book and I was trying to sell it. He took one look at it, invited me in, bought it, fed me dinner, and over that winter bought several other books that I made in the freezing desert sun. This had gone exactly as I had planned. Eventually, I became the artist-in-residence and thus my professional art career began. There is much more to the story and most of it is not my story. It is the story of this man, who had this gallery in the middle of nowhere, full of amazing art, and living life-as-art. This life in the desert changed me and when I returned to New England with the mission of becoming a counselor to work with high-risk youth I had done something; I had grown into a man.

Now, a bit of the romance has worn off. My art without ego concept never became sustainable. Counseling has been much more lucrative, but it was the art making that lead me to counseling. Part of the money I earned working in a adolescent substance abuse treatment facility allowed me to purchase

the equipment I needed for this thesis.

Just recently, I used one of the books I made in New Mexico as a dream journal. It is one of my favorite books. The cover is made from a native textile from Chiapas, Mexico with two patches of howler monkey. I name this book *Howler Monkey Face* (see figure 2), and see it as an anthropomorphic mask and journal. I used it as my dream journal for almost two years and I feel like I should share a part of one the most powerful dreams I noted during this time. There is a gang member sitting on a couch in a living room with a revolver aimed at his head, and he says he is going to kill himself. As I am trying to talk him out of it I look at the wall and see a magnificent icon that looks like it had been painted by a talented graffiti artist. It is Mother Mary, I know that, but I feel like I know this image. Eventually, days later it dawns on me that this was the Pachamma, a syncretic earth goddess Mother Mary. Will this be a full circle when I travel to Lima, Peru this summer to present a workshop on digital music technology and expressive arts therapy at the bi-annual International Expressive Arts Therapy Association Conference?

Digital Technology

As I was growing up, digital technology had great appeal to me. In John Hughes's (1986) popular movie, *Ferris Bueller's Day Off*, the young hero uses a computer and keyboard synthesizer to trick his mother into believing he is sick in bed, not out playing hooky. This movie is embedded in the collective consciousness of my generation and this particular scene involving technology has been imprinted in my mind, even though the technology would be considered clunky by today's standards.. For my generation, and even more so with younger generation, technology is an integral part of our lives – we simply could not live without our computers. In some ways, every aspect of our existence is propped up with some sort of technology. It could be social media, cell phones, Apple Corporation, electronic paper, and it is not just for the young. You would be hard pressed to find any person whose life is not in some way connected to the zeros and ones of the binary code that powers all computer



Figure 2. Howler Monkey Face / Dream Journal.

processors, small and large. For this thesis, if I am looking at technology from a framework that integrates all the arts why would I only focus on digital music technology?

So there I was, a teenager, trying to create an identity, trying to be cool. For me, rap music and dance music were cool. Just like jazz music informed the beat poets, these new forms were informing me in what I saw as a conscious parallel. Rap is poetry. Rap is dance. Rap has a beat. The beat is a sample. The sampler is digital. Rap is digital. The technology eventually became mass produced and kids like me could go out and buy a sampler.

I remember the first time I used a sampler fifteen years ago—it was just like the scene from that movie; it changed everything. I remember sitting around with my friends making beats and freestyle rapping in the cipher, not for fame, just something to do, just a way to get things out. The first time I ever held a microphone and tried to spontaneously rhyme from the top of my head I was scared, but I took a leap of faith, did it, and even though I probably would be embarrassed to hear myself now, I felt like I had accomplished something. Nothing bad happened, in fact I had just been injected with the feeling of self-mastery.

Now I am studying to be an expressive arts therapist. Can this same energy be harnessed for something healing? Can those underground “groups” be introduced into the clinical environment? An important element is that today's technology has become quite advanced and is more accessible than ever. My cellphone is a more powerful computer than my first laptop. Today's laptop is an extremely powerful device that would have cost as much as a house or more back in the early days of personal computing. If people are using the arts as healing, then why shouldn't we use the digital arts as healing?

You press a button and it makes a sound, a simple example of cause and effect. In our lives does this causality always happen? Does the questioner always get the desired answer? Does the key always ignite the car? What happens when something is supposed to happen and it doesn't? There are

many complex factors constantly swirling around and influencing each other that our existence might seem overwhelming.

I cannot deny that there will be certain biases that will play out in this study. I have resistance to contemporary psychiatry and managed care, specifically transnational pharmaceutical corporations and the forms of psychotherapy (or lack thereof) being carried out by this trillion dollar industry. I am greatly indebted to continental philosophy, poststructuralism, and critical theory for creating a language of resistance against these influential forces. In the end, I believe that expressive arts therapy can provide an effective alternative to the oftentimes limiting forms of treatment based on synthetic chemicals with sometimes unknown side effects. Psychopharmacology is not entirely bad, but it is overprescribed. This may be controversial, but is an important delineation to make.

Just recently, I had a dream. I am standing on the side of a cliff with both hands holding onto a rock that seems like it is ready to break off. In order to get down, I have to let go of the rock with one hand, and reach for a more stable rock. I am very scared because it seems like shifting the weight on the rock I am already holding will cause it to break. Eventually I do it, and live. When I was a boy my mom took me backpacking in the White Mountains of New Hampshire, but I was too scared to hike to the summit of Mt. Adams. I could only get to a place called *Thunderstorm Junction*. The summer before I began this thesis, not only did I make it to the summit, but I did it under a full moon. This is what I do; this is who I am. After my grandfather passed away, just before I moved to New Mexico, I lived with and took care of my grandmother who was diagnosed with Alzheimer's disease. It was a difficult and emotional month that I wouldn't trade for anything. I remember this one time, we were sitting at the dining room table, and she kept folding and unfolding the cuffs of her pant legs. During this nonsense, she looked at me, and emphatically declared, "This is what I do."

CHAPTER 2

LITERATURE REVIEW

No single model would be fully capable of fully expressing the endless wealth of individual variations which all have their raison d'etre.

Jung²

I keeps it simple as well as complicated.

Jaylib³

The literature review for this thesis will be contained in four major sections: (1) expressive arts therapy, (2) digital technology and expressive arts therapy, (3) rap therapy, and (4) community-based / social action expressive arts therapy. From reading the introduction, the reader should be aware of a bias against traditional mental health settings and contemporary clinical attitudes about diagnosis and treatment. The information presented in this chapter is non-exhaustive; there is not an exhaustive body of data to pull from regarding these peripheral theories of healing. The information presented, due to the limited corpus, will sometimes be drawn from areas not specific to expressive arts therapy, such as the field of education or the treatment of different populations and in different settings. My hope is that this literature review will be helpful as an introduction to the existing scholarship in the field and serve to identify the blind spots and areas for further inquiry.

Ouroborus

Constantly changing technology limits this review. Once a new technology is introduced a newer one will soon be introduced, sometimes leaving a trail of obsolescence and incompatibility. The problem of working with new technology within therapeutic settings is a severe lack of published material to draw from, especially peer-reviewed academic journals. This makes the task of presenting meaningful data challenging because no sooner is the data presented than it is forced to play catch up

² This quotation from Jung (1966), p. 322.

³ This quotation from Jaylib (2003), song 11.

with itself. On notable art therapy author Cathy Malchiodi's (2009) blog, she wrote about her book based on computer technology, "please don't buy it [my publisher will surely gasp now] unless you want to have a good laugh." It is difficult to have a theory on the subject when you have leader in the field telling people not to read her book on the subject.

What is expressive arts therapy?

Before we look at the literature on digital music technology as a tool for healing, I should begin by explaining the point of view of an expressive arts therapist. When I graduate from Lesley University; I will be receiving a Master's degree in Expressive Arts Therapy. What does this mean? What does one do with this degree? What is expressive arts therapy and how does it differ from other forms of psychotherapy and counseling psychology.

Estrella (2005) writes what could be considered an offering, a harmonizing definition of this intellectually grounded and philosophical approach to healing. Her interpretation is: "Expressive therapy as a treatment modality is founded on the interrelatedness of the arts and takes an integrated approach to the use of the arts as a tool for psychotherapy (Estrella, 2005, p. 183)." As we will see in further explorations of the literature on this field, art is not limited to visual art: painting is movement, poetry is sound, dance is visual. Each art modality permeates the other, leaving us not with any single essence, but with a porous creativity, without the need to be broken down into individual art forms. How does this relate to therapy? Has the use of art in psychotherapy become compartmentalized in a fashion eerily similar to the confounded pathology of the latest DSM incarnations (Cushman, 2002)? Expressive arts therapists might say that it hasn't. Most importantly, beyond the philosophical, expressive arts therapy is a treatment modality. Just as traditional psychopharmacology uses psychoactive drugs to treat mental health diagnoses, expressive arts therapies utilize an integration of the arts as treatment. Examples of how the arts can be healing can be very simple and very complicated.

Three major therapeutic techniques in expressive arts therapy are *decentering*, *range of play*, and *intermodal transfer* (Knill, 1978, 2005). These are not the only tools an expressive arts therapist might use, but are helpful in providing an understanding of the theoretical orientations informing the work. Knill (2005) writes:

by decentering we name the move away from the narrow logic of thinking and acting that marks the helplessness around the “dead-end” situation in question. This is a move into the opening of surprising unpredictable unexpectedness, the experience within the logic of imagination (p. 82).

In treatment planning, a counselor is trained to identify the problem and create a treatment plan with measurable short-term and long-term goals. This could be considered centering on the problem and is central to the initial stages of many treatment episodes. For an expressive therapist, the idea of not focusing so much on a problem can become in the end the best solution. Knill warns that focusing too much on the problem can sometimes not lead to the desired result. This connects with another foundation. Knill (2005) writes:

providing a range of play contrasts with the situational restrictions experienced by the seekers of help. The phenomenon of play is experienced in the 'doing as if,' in the open-endedness, and in the circularity of the here and now that is usually connected to all alternative world experiences (p. 82).

For an expressive art therapist, it truly becomes a process of trusting the process.

However, the language used to narrate an essential definition for expressive arts therapies has not been standardized. McNiff (2009) makes a clear delineation, but as Estrella (2005) writes there can be many different words used to describe what an expressive arts therapist sees as basically the same thing – expressive arts therapy, expressive therapy, creative arts therapy, integrated arts therapy, intermodal expressive arts therapy, art therapy, dance/movement therapy, music therapy, voice therapy, poetry therapy, rap therapy, digital arts therapy, digital art therapy, etc. This controversy of definition also relates to the definition of the profession as a whole.

It is clear in the literature that intermodal expressive arts therapy is not the overall name for the

practice, but is its own theory within expressive arts therapy. However, at Lesley University students who are not specializing in dance/movement, music, drama, or art therapy are considered “intermodal” by the administration (Estrella, private conversation, 2010). Maybe this is because intermodal theory was developed by Paolo Knill while he was a professor at Lesley University (1978, 1995). Whatever the reason, it is still important to look at intermodal theory as informing practice whether one refers to it as, “expressive arts therapy, integrative arts therapy, multimodal expressive therapy, or intermodal expressive therapy,” because you are still referring to it as therapy (Estrella, 2005, p. 183). As a theory of therapy, intermodal expressive arts therapy supports the participant or participants in moving from one art modality to another within the therapeutic encounter (Knill, 1978, 2005). For example, a client might be asked by an expressive arts therapist to free write or move, following the creation of visual art. Theoretically in our own lives, intermodal transfers happen quite frequently. Thought becomes actions, movements in body (heart, blood, lungs, neurotransmitters, muscles) become expressions of dance and language. Experience is intermodal. Is the intermodal transfer actually a fundamental truth for all of humanity?

Intention.

McNiff (2009) asks an important question and then answers it for us:

Where is the therapy? How is this different from arts education or a more generic approach to fostering creative expression? These are important questions relating to the fundamental nature of professional expressive arts therapy practice and training. In my opinion the therapeutic and healing qualities of arts experiences are determined by the intentions and sense of purpose that participants, therapists, and institutions bring to the specific engagements (p. X).

Therefore, the first step for an expressive arts therapist is to set the intention that as a foundation, a combination of decentering, play, and intermodal transfers will lead to healing.

Poiesis.

In Levine (2005) we become acquainted with a combination of the postmodern condition, no absolute truth, and the Greek idea of *poiesis* – defined here as making and shaping through the arts - as

a pathway leading towards an understanding of expressive arts therapy (p. 16). What exactly does this mean for an expressive arts therapist? What does this mean for a client about to undergo treatment with an expressive arts therapist? If we study the Levine (2005) text, we are led to understand that the harder we try to define anything in language, (phenomenology, angst, *dasein*), the more we find that the limits of this understanding are exactly that-- limits-- the limits between madness and madness. Knowledge becomes ripped apart in a Nietzschean dialogue between the logic of Apollo and the mystery of Dionysus. Somehow, through this magic of existence there is medicine; for this thesis, let us name it expressive arts therapy. Out of the madness or chaos of our human existence, we shape through the act of poiesis. Just like the journey of Hermes; we journey into the other, the unknown, and hopefully return with the manna that feeds us physically and spiritually. Levine (2005) writes, “therapy, therefore, must be in part, devoted to restoring the aesthetic dimension of life; beauty, not knowledge, is the ultimate goal (p. 54)” In conclusion, Levine offers us an answer to all the philosophical theory:

the human being today has to be conceived of as de-centered, without a foundation of certainty leading to knowledge and control. Such a being is not autonomous, not self-enclosed and cut off from others or the environment. Dependency and vulnerability are not extrinsic to existence but rather are the conditions of its possibility. Far from being an impediment to our creativity, however, these characteristics are what enable us to respond to the world that we have been given. Because we are affected by this world, we must take account of it in our acts of shaping. *Poiesis*, the creative act of shaping or forming, is a response to the call of the world; it depends on my capacity to listen to that other which addresses me (Levine, 2005, pp. 71-72).

Making art is crucial to finding balance in the world and the expressive arts therapist can be the conduit for this mystery to take place. Where does it begin?

Voice.

Martin (1996) gives many examples of how the voice is used as a music instrument (p. 262). The noises that emanate from our vocal chords are music. With this definition we can see that even everyday talking is making music. When we grunt to pick something up, this is a form of music, no

different than the beautiful voices of songbirds, who in their world might only be grunting to pick up something. Yet we hear that and say, “What a beautiful song”. Martin (1996) writes that the voice is not just a musical instrument, the voice is also “existence, identity, and healer (pp. 262 – 267). If the voice can heal, then it surely must have a place in expressive arts therapy.

Digital technology

The following presents published material showcasing current uses of digital technology within psychotherapeutic and educational frameworks. Even though there is not a large amount of published material on digital music technology and therapy and certainly no worthwhile books, there are a few solid journal articles (Magee, 2006; Magee & Burland, 2008). These articles inform and ground my method within an established field and I will be able to compare and contrast my findings with the findings of others. Because I was only able to find two published articles about digital music technology and therapy published within the last decade, I will also look interdisciplinary at arts education and intermodally in the field of art therapy. In England's music education system, legislators mandated the use of technology in the curriculum and one study shows how this work enters a domain very similar to the work of expressive arts therapists (Savage, 2005; Savage & Challis, 2002). In art therapy, there is more research published on the uses of technology in therapy and two scholarly papers written by Penelope Orr (2005, 2006). While not specific to this study, Orr's work will help mirror some of the same information being presented on digital music technology and therapy.

Digital music technology and music therapy.

Magee and Burland (2008) present an article on the use of electronic music technology (EMT) in a clinical music therapy practice. Their article looks at music therapy practitioners with EMT experience and “complex patients”. This study asked three basic questions:

1. What techniques and methods are employed by music therapists who use EMTs and do these differ from those used with traditional acoustic instruments?
2. What is the clinical process followed by music therapists when using EMTs?

3. What are the inclusion and exclusion criteria (formal and informal) music therapists use in clinical-decision making when using EMTs? (p. 126).

The goal of the research study was to gain in-depth information about this emerging field within the music therapy discipline by interviewing clinicians about specific cases in which they used EMT. Because there are so many different types of electronic music technology devices to choose from, the study was limited to only those that used MIDI messages linked to devices that would trigger sounds when activated by participants. The participants in the study were all severely limited in communication and physical abilities and the interventions mostly used Soundbeam, a device that shoots sonar signals into a space, such as the therapist's office, and when the plane of the beam is broken it triggers various tones. In the realm of published literature on therapy, there are no recent studies on the use of digital music making with higher functioning clients. The results of the interviews with music therapists produced five major categories:

1. the entire process would not happen if the therapist does not have access to bring the tools and know how to use them
2. risks included focusing too much on the technology and not enough on the client-therapist relationship, client becoming 'overwhelmed or over-stimulated'
3. 'palette of opportunities,' the idea that a 'small-input' can have a 'big output' and that younger participants might be more interested
4. the use of technology helped clients with identity development because making music with digital technology is easier to master than with traditional instruments.
5. there is a battle between traditional acoustic instruments on the one hand with music therapists reporting that certain aesthetic properties are lost with technology versus the ease of use of technology (Magee & Burland, 2008, pp. 129-137).

This study found that a contraindication for EMT would be with clients who are not conscious of cause and effect. However, cause and effect for a person with profound developmental disabilities is quite different than cause and effect for a person with behavior problems. This contraindication deserves further research and delineation on the role of technology as an aid or deterrent to progress and goal accomplishment.

In another study, Magee (2006) surveyed music therapists in order to add to the limited body of

work on this new field. The subjects of this study were members of the Association of Professional Music Therapists (APMT). The author sent each member of the APMT a questionnaire aimed at discovering who was, was not, and previously had been using digital music technology in their current practice as a music therapist. The questionnaire wanted to discover why and why not these clinical choices were being made. This study discovered what technology was being used, broken down from most often to least often, “Soundbeam, Midicreator, software with specialist input devices, electronic hardware and software, electronic midi instruments, amplification equipment, recording technologies, vibroacoustic therapy equipment (Magee, 2008, p. 142)” While this is helpful, it does not give much information on how these instruments were used or what specifically these instruments are.

Digital music education.

Savage (2005) shows how digital music technologies allow students to create music in a new way that is directly related to the capabilities of the technology and resemble the same process accomplished in expressive arts therapy. The subjects in this study were children between eleven and sixteen years old. This study analyzes and compares three previously published case studies that the author conducted. The case studies explored how students interacted with new technologies when given the educational task of composing original music. The results of this study report that students engaged with technology in a new way. For example,

The case study data suggested that new technologies facilitate and enable a closer analysis of, and engagement with, the micro-phenomena of sound. Just as an advanced instrumentalist is able to mold and transform an instrument's sound through a highly technical and sophisticated physical interface, so pupils could get to the very core of sonic material and begin manipulating its structure through a very simple interface (Savage, 2005, pp.171-172).

The author also discusses an ecological or porous group of stages in the development of digital music composition, “starting points, experimentation, selection, structure, evaluate/revise (Savage, 2005, pp.172-177). The conclusion of this article is that educators cannot just plunk technology in the middle of the classroom without looking at how to utilize these new forms of creation that facilitate

aesthetic productivity. By creating a structure first, students can then go on to create without becoming overwhelmed with the technology itself. That is students can go from learning the technology to actually making music.

Savage and Challis (2002) present the Reflecting Others research project in which two groups of high-schoolers, one in prison the other in a regular high school created musical compositions using electronic technology. Each group was given a digital audio recorder device, a digital video recorder, and access to professional editing software and asked to create an audio/video composition reflecting on the themes of community, identity, and environment with the source material of the other group. The results of this study are helpful to an expressive arts therapist because the project is closely related to a project that an expressive arts therapist might implement. The students learned that the computer can become an instrument in itself. The educators learned a compositional process of beginning with the starting point, experimenting, selecting, structuring, and then evaluating/revising. The skills needed to employ the professional editing technology were managed by the students and accidental experiments often lead to the greatest aesthetic content. The educators found the important lesson that, "A brief introduction and then timely support, example materials and demonstrations within a wide-ranging and open-ended creative task was, we believe, a successful pedagogical strategy in this project (Savage & Challis, 2002, p.15)." The conclusions to this project are: electronic technologies are leading to new ways of creativity; it is very important to have a clear focus for a project; new technologies level the playing field in the music-making process and any skill level and ability can take an active role.

Cain (2004) claims that the introduction of music technology into music education has led to the need for a reevaluation of music education curricula. These new technologies revolve around sampling and editing, MIDI, and the internet. The problem the author sees is that this new technology has changed everything. The author concludes that a dialogue needs to be conducted in reformulating how

music education is taught in England. Is this dialogue also needed in the world of psychotherapy?

Digital art therapy.

Orr (2005) wanted to find out how technology media was being used in art therapy practice. The author randomly sent 500 questionnaires titled, “Technology as a therapeutic intervention” to registered art therapists. The author found that most of the respondents used technology in some form in their practice, but the number of respondents who used it therapeutically was significantly lower (Orr, 2005). For those who used technology as therapy, they did so with mostly child and adolescent clients who had a high level of comfort with the language of technology. The art therapist respondents reported that technology was helpful for lessening client resistance and helpful for people with disabilities. The respondents also reported drawbacks and their reservations about technology. In another study, Orr (2006) wanted to know what type of technology art therapist use at work, whether they have had any training in technology, and what type of technology they use in art therapy practice. The results of the study found that there is some interest in technology, but that most art therapists are opposed to it or do not use it (Orr, 2006).

Rap therapy

This section presents the scholarship on using rap music and hip hop culture in psychotherapy and why it is so important. Without the use of digital technology in rap music production we would have never seen the influx of electronic devices for the everyday consumer. (XXXX) thankfully, there is a wealth of research and published material on hip hop culture, rap music, and therapy (Allen 2005; Decarlo and Hockam, 2003; Elligan, 2001, 2004; Gonzalez & Hayes, 2009; Kobin & Tyson, 2006; Tyson, 2003). While many of these articles have different names for their theories, similar to the naming of expressive arts therapy, it seems that these are different names for basically the same thing.

Allen (2005) writes about Hip-Hop Therapy (HHT) to showcase techniques that can be applied when working with high-risk youth. The author states that hip hop has a powerful impact on youth

culture in contemporary American and even our global society; therefore, it can also be a powerful and effective tool when working with youth. The author writes that HHT is a mix of “rap music, bibliotherapy, and music therapy (Allen, 2005, p. 31).” The author warns that HHT must be used with some caution because it is perceived negatively by many people and there might be an adverse reaction by some parents who look down on rap music even though the therapy is grounded in ethical practice and the desired outcome is for positive change. Allen (2005) concludes that HHT helps counselors become more culturally competent and that by accepting, even appreciating, the current cultural trends, counselors are helping build the foundations to a less oppositional therapeutic relationship.

Kobin and Tyson (2006) researched how rap lyrics can be interpreted within various mental health frameworks to promote better counselor client relationships in urban treatment facilities. The study looks at the lyrics of various rap artists as well as some of the existing literature on the topic of using rap music in therapy. Rap music is part of hip hop culture, an entire way of life. Rap music is a beat with lyrics. This study focuses on the lyrics or spoken word component of rap music and hip hop culture. The authors report that through the subjective analysis of rap lyrics they have discovered several categories in which these interpretation can be used. They write:

By utilizing strengths based and cultural competence principles, hip-hop centered models work both to empower clients and to increase the therapist's awareness of the client-centered experience of some African-American and Latino clients, particularly those from low-income and urban backgrounds. .. Many people can relate to, understand and identify with the style and delivery of messages that characterizes hip-hop (Kobin & Tyson, 2006, p. 345).

By a clinician accepting the client's choice of rap lyrics, the clinician is also accepting the client. The authors make a link between several racial/cultural identity models and how each of the stages can be interpreted with lyrics. The article warns:

Whether the hip-hop genre preferred by the client is viewed as positive or negative by the clinician is irrelevant when using hip-hop therapy – it is the combination of the client's choice of lyrics, perception of themselves in relation to the music and specific interpretation of the lyrics that makes hip-hop in therapy a viable treatment (Kobin & Tyson, 2006, p.351).

Decarlo and Hockam (2003) present a culturally competent group therapy intervention using rap lyrics to promote prosocial skills that they aptly title, RAP therapy. The authors write, “this article compares the outcome of a traditional form of group therapy with an innovative contemporary technique utilizing RAP music to promote prosocial skills in African American urban adolescents (DeCarlo & Hockman, 2003, p.45)” The subjects of the study were twenty one, eighth through tenth grade, African-American males, aged thirteen to fifteen, split into violent offenders incarcerated for homicide, probationers without violent crimes, and students with no criminal history. Group participants were asked to choose their five favorite rappers and then met in group to discuss segments of the lyrics that related to the themes of female gender abuse, anger management, impulse control, reasoning, morality, responsibility, and identity. (DeCarlo & Hockman, 2003, p. 52) The result of the study favored Rap therapy over traditional group therapy; 100% of the participants preferred rap therapy including high levels of relaxation, excitement about next sessions, and enjoyment during sessions. In conclusion this study shows, “that group work can be an exercise in relaxation and enjoyment while simultaneously fulfilling its primary goal, to promote prosocial skills development.” (DeCarlo & Hockman, 2003, p. 55) also, because the control group had such a positive result the study also shows that these techniques do not have to be limited to therapeutic groups in clinical and correctional facilities. DeCarlo and Hockman (2003) report that they do not know of any other published group therapy intervention in which such high-risk populations actually want to attend.

Rap music and hip hop culture have been successfully used by school counselors (Gonzalez & Hayes, 2009). Elligan's (2001, 2004) theory of Rap Therapy is used as the basis for a time-effective application in the school setting. There are five stages in Rap Therapy: assessment, alliance, reframing, role play, and action and maintenance (Elligan, 2001, 2004; Gonzalez & Hayes, 2009). The author demonstrates how these stages are used with a case study of a 14-year old. The results lead the client to become more aware of his anger, but in the author's view, more importantly, the client established a

rapport with the counselor that might never have been possible if Rap Therapy was not used as an intervention. The conclusion made by the author is that Rap Therapy is a powerful tool for change (Elligan, 2001, 2004; Gonzalez & Hayes, 2009).

Tyson (2003) presents a social work intervention that can increase “credibility, rapport, and effectiveness,” utilizing rap music with youth. The Rap Music Model was developed to be used with African-American and Latino youth; however, the author mentions that the widespread appeal of rap music and hip hop culture makes it suitable for other ethnic groups. The intervention was designed as a group therapy intervention and while the quantitative data did not prove statistically significant, the qualitative data reported otherwise. The participants in the group wanted the group to continue and said that it was so much better than any group they had previously attended. Tyson (2003) writes that using rap music as an intervention is a culturally sensitive social work practice, and could even be considered an Afro-centric practice (p.15). Another positive aspect of incorporating rap music into a clinical practice is the empowerment that goes along with a social worker accepting and respecting the language of the youth they work with, in this case the language being rap music. By validating the youth's values, the social worker allows the youth to see rap music as a source of “strength and growth (Tyson, 2003). He writes, “The social worker is attempting to help youths build a positive sense of self and increase awareness of their social, political, and economic reality and how to effect positive change. (Tyson, 2003, p. 17) Even if the rap music intervention does not produce a measurable evidence based practice it , “is a creative approach to engage youths in treatment, as well as maintain and enhance motivation for treatment.” (Tyson, 2003, p. 18) In conclusion, this study is only a preliminary look in its early stages of development. The author point to several directions that rap music and therapy could travel including rap music created by the youths themselves (Tyson, 2003, p. 18).

Through this scholarship, hip hop becomes an important arts modality to be used in a

therapeutic context. In conclusion to this section, I would like to offer a list of positive reasons for hip hop therapy:

- cultural competence/sensitivity
- digitally driven
- reinterpret negative perceptions
- establishing rapport
- message youth can understand
- empowerment
- fun equated with an otherwise negative attitude towards treatment
- relaxation
- prosocial skill building
- credibility, veracity
- ethically appropriate
- validation
- enhance motivation for treatment

Other alternatives

Reinkraut (2008) writes that counselors cannot be neutral because we make decisions and live our lives as humans in the world and proposes that we need to realize how our morals enter into the therapeutic encounter. He hypothesizes that we can use them to be better, more human counselors in turn helping our clients with their own moral compass. The therapist's use of self can be understood to mean the intentional use of his or her ability, experience, identity, relational skills, *moral awareness*, knowledge and wisdom in the service of the therapeutic benefit of the client (Reinkraut, 2008, p. 15).” What does this have to do with this thesis? This thesis is not just a study; it is who I am and what I do. The topics in the thesis are essential parts of what I am interested in, think about, and the challenges that I create for myself.

Watkins (2009) demands that personal stories or, “medicine stories”, are more helpful for people's mental health than the standard, sometimes out-of-date clinical fare offered in the thousands of books, journal articles, and conferences around the world. The author shares medicine stories from her own life as well as from others. The results of this study were that the author, “began to see that

psychotherapy as an institution was an expression of the dominant cultural paradigm of the self: individualism. This form of self entails increasing separation from others, nature, and community (Watkins, 2009, p. 231)” The author also lists some concrete examples of how to create a new paradigm, what she calls practices for *ecopsychological* healing, “returning psychology to a practice that belongs on the margins of culture, questioning its norms, and imagining alternatives (Watkins, 2009, p.235).” This study shows how therapists can engage in a critical practice, pushing them back into the community, maybe even though this does in fact mean leaving the confines, comfort, and safety of the “chair”. The author challenges the reader to enter into a revolt against traditional psychotherapeutic practice.

Cushman (2002) further develops this critical resistance to the current trends of market capitalism as driving the current trends in the treatment of the psyche. He writes that, “these elements influence psychology to strive towards ever-faster and more efficient brief therapy practices, more concrete and specific DSM categories, and more quantifiable therapeutic outcomes, all in order to better technicize and industrialize therapeutic practices (Cushman, 2002, p. 104).” The subject of this study is American culture and the “advent” of personality. The claim is that over the last century, the idea of character has been replaced with an idea manifested so well in the sixties culture, “the spontaneous, colorful, self-centered, perennially immature, youth-worshiping self arrived on center stage (Cushman, 2002, p. 105)” Cushman writes that that the Diagnostic and Statistical Manual published by the APA reflects the change in personality:

the shift could be interpreted as a reflection of a particular understanding of human being: A more complex, messier, holistic description of humanity, haunted by the dark urges and unconscious conflicts of a psychoanalytic vision, has given way to a focus on delimited, highly concrete and specific bits of observable, straightforward, unproblematic behavior. The shift implies a self no longer characterized by complex interactive patterns of holistic personality styles but made up of data points of public, observable, behavioral acts that are declared symptoms and signs by DSM experts (Cushman, 2002, p. 107-108).

Cushman (2002) writes, “the DSM self is a self of parts, not wholes; behaviors, not personalities;

concrete observations, not artistic interpretations; conscious speech, not unconscious dreams; surfaces, not depths; incontrovertible data points, not ambiguous narrative; cleanliness, not messiness (p. 108).” Cushman (2002) gives the example of how anti-social personality disorder and its necessary precursor of adolescent conduct disorder has become an effective, “way that political suffering is medicalized and then medicated into silence,” in lower socioeconomic communities, very similar to the cosmetic psychopharmacology of ADHD. Cushman (2002) writes that the sometimes tacit classism, racism, and oppression still alive in 21st century American culture are also playing out in how we diagnose and treat mental health.

Is there an alternative?

There is a growing worldwide movement in community-based art studios documented by a growing body of literature (Allen, 1992, 2008; Block, Harris and Laing, 2005; Allen, 2008; Elmendorf, 2010; Golub, 2005; Hocoy, 2005; Kaplan, 2005, 2008; Lentz, 2008; Thompson, 2009; Vick and Sexton-Radek, 2008). In 2005, *Art Therapy: the journal of the American Art therapy Association* devoted an entire issue of its journal to explore the practice of a community-based and arts-based practice that lives in the gray area between traditional psychotherapy and community-based social action.

Pat Allen is (most likely) the most notable professional in the community-based art therapy field and her seminal article “Artist-in-residence: An alternative to “clinification” for art therapists” (1992) has become mythic to community-based practitioners. In it she warns art therapists about becoming too much of a clinician and not enough of an artist. The author looks at the field of art therapy practice and the manifestation of the “clinification syndrome.” The results of the paper reflect that the industry itself is to blame. One of the major problems responsible for this is that university training programs do not facilitate enough art development for art therapists in training. The author goes on to report that she believes this problem leads to burn out, career drift, lack of art therapy research, and lack of

theoretical depth (Allen, 1992). Of the several solutions for this problem the author writes that more art should be made in internships and at jobs by art therapists. Allen (1992) says that the bifurcation of therapist during the day into the artist at night borders on pathology and that an integration of both can and should exist in the workplace (p. 26). In response to fears that counselors might have in making their art in a public space, Allen (1992) writes that it is through an honest art practice that we find a vulnerability that exists in our own humanity and our own process of development. The conclusion of this article is that art therapy risks becoming just another theory within the larger umbrella of counseling psychology and mental health treatment, a place that Allen (1992) does not believe the unorthodox approach of art therapy should live.

What is a community-based art studio?

Allen (2008) looks at community-based art studios as an approach to art-making from the point-of-view of a person who has spent her career helping to found these types of artistic outlets. Allen (2008) writes about her earlier work branching away from the American Art Therapy Association because of the ethical implications related to confidentiality and more importantly to the diagnosing and pathologizing of people that is implicit in clinical art therapy. In community-based art studios, “there are no efforts to fix, cure, change, or interpret but merely to witness the flow of expression in the images that arrive and to learn from them. The healing occurs as a natural unfolding of the artist's truth as expressed through the images; the more fully these artists come to know themselves, the more they are able to authentically participate in life and community. (Allen, 2008, p. 11) Because these studios serve marginalized populations, Allen (2008) sees them as conduits between mainstream and minority culture and as a force in preventing the ecopsychological disaster of monoculture. Allen (2008) writes that, “art can hold and express all that it means to be human,” and that, “we should embrace and aid in the proliferation of places – of all varieties – where the basic human right of artistic self-expression is cherished and enjoyed (p. 12).” It is also important to note that art does not simply mean visual art, as

we saw in the sections on expressive arts therapy.

Thompson (2009) expands the triune version of art therapy to include a new member and to create a tetrad of art, patient, therapist and gallery. Thompson (2009) includes two case studies of psychiatric patients who benefited from the exhibition their art. Traditional art therapy has focused more on the process than the product and Thompson writes that this is missing an important part. By applauding aesthetics the patient is empowered and by not recognizing the artist, “the patient is deprived both his goal and the reward of his labors (p.161).” In conclusion, Thompson (2009) introduces the idea of *aesthetic action*, which is a sort of institution-based activism, “that redefines the meaning of the gallery and its participants as beyond the reach of institutional forces from within its own walls (p. 165).”

Block, Harris and Laing (2005) introduce the Open Studio Process as a way of working with at-risk youth in the community. The open studio process began when the need for it arose. The model was developed by an artist who found that, “the most useful asset she could offer her clients was her own artistic energy - her ability to use art-making for self-discovery, problem-solving, and personal growth (Block et al., 2005, p. 34).” In an antithesis to Thomspson (2009), they don't allow any comments. The results of this program are that over one hundred youth have been served, concluding that these programs “help young people find creative ways to help themselves,” to help create healthy communities, and to provide access to the arts (Block et al., 2005) .

Kaplan (2005) writes, “We cannot separate the people we treat from the cultural settings in which they live and by which they have been influenced. None of us exists in a social vacuum; each of our psyches comprises a unique amalgam of genetic endowment, family, environmental influences, and collective history.” This makes community-bases art centers so necessary. They are embedded in the community, not in a neutral place where the community issues can be minimized, separated by the physical distance of location. Kapitan (2008) writes, “when a whole community embraces the idea of

art as a healing technology and applies it to suit its own particular needs, a thousand permutations become possible on how art therapy may be defined.” Traditionally, therapy and art therapy are practiced in sterile clinical settings and by giving therapy to the community, professional therapy risks becoming redundant.

In a comprehensive study, Vick and Sexton-Radek (2008) compare the similarities and differences between community-based art studios in the United States and Europe. There were a total of fifteen respondents to the email survey (eight US and seven EU). The results of the study including, range of services, clientele served, funding sources, staff functions, participant involvement in decision making, and program mission statements. The EU programs unequivocally responded, “We do not do art therapy!” which led the author to report, “my gracious hosts described the purpose of their programs variously as addressing self-esteem, vocational, and quality of life issues, as well as shifting perceptions of both the artists and the general public about people with disabilities.” He asked himself, rhetorically, “How is this not art therapy?” The reason for this Vick (2008) writes is that art therapy is identified in the world-at-large as a medical model addressing and treating pathology (p.4). As one respondent wrote, “we do not do art therapy because these people are not sick (p. 9).” Studies like this ask us to question the established order of current practices in our field. Are these community-based art centers helping people in ways that traditional therapies cannot? Does pathologizing a person in order to be reimbursed help or hinder? These are not easy questions to answer, but it goes back to the question previously asked, “How can we be effective change agents?”

Vick (2008) found that the US programs were more interested in the process not the product whereas the EU programs were looking to mentor artists, which presents expressive arts therapists in the United States an interesting ethical dilemma. Vick (2008) writes,

We are acculturated from day one to reassure our clients that in terms of their art expression 'it doesn't matter what it looks like.' A professional art perspective requires galleries, exhibitions, and sales. To be viable, the art from such a program must appeal to the public – in short, it *does*

matter what it looks like (p. 9).

Does pathologizing a client lead to a relationship of co-dependence? Do they need us to get better? In the real world the appeal of the art is more than charity, it becomes a commercial endeavor with winners and losers. Has counseling become a place where the ideal becomes, “everyone is a winner?” We treat the client in an entirely neutral world, but when they leave the office they experience an entirely different culture. In a world of haves and have not’s, does counseling in some ways become coddling? Vic (2008) goes on to write:

Ultimately, the comparison of these two samples of programs calls into question some traditional art therapy values as well as current ethical and practice guidelines. Are we constrained by the very standards we have established for ourselves or will reevaluating certain ‘therapy’ conventions from our practice free us to work more creatively? Do our standards restrict us to practice only in the traditional psychotherapy rubric or do they have the elasticity to adapt as our practices evolve.

Does a new language need to be developed? Do we need to look at the whole person, not just the mind? Is the growth of community-based studios and of the arts as therapy in general a cultural step in the development of more effective alternative therapies not directly tied to statistical outcomes?

Ethical code.

Elmendorf (2010) studies how art therapy exists outside of traditional art therapy settings and more specifically, in community-based settings. The subjects of this study are art therapists interested in providing art therapy outside of mental health milieus because of some of the ethical dilemmas these environments bring to the equation. The author reviews some of the available literature about the changing profession of art therapy, community-based arts, and the Maryland Institute of Art (MICA) annual convening of community-based practitioners. A list of questions from this annual event are presented in the article for an ethical practice as an alternative to mainstream treatment planning, informed consent, and confidentiality. The conclusion presented by the author is that art therapy is no different than anything else; it is in a constant state of change and it is the responsibility of the

profession to define and redefine itself within this process of change. What are the code of ethics for digital music technology in therapeutic and community-based encounters?

Social Action.

Hocoy (2005) explains how art therapy can and should be combined with social action. Hocoy (2005) warns the art therapist that they can be unknowingly perpetrating social inequality and oppression by using the healing properties of art therapy to help people assimilate into oppressive mainstream culture. Hocoy (2005) states, “that for art therapy to be a force of individual and societal liberation rather than an unwitting vehicle of social compliance, art therapy itself must be liberated from the invisible structures and biases inherit in it.” The same forces that overprescribe psychotropic medications also inform art therapy practice. Hocoy (2005) claims that we need to challenge the oppression. The article proclaims the complicated, breathing, porous interconnectedness of everything and that art therapy is only one voice within the larger whole, the goal of which is peace and justice (p. 13). The conclusion of this article is that we need to look within at the oftentimes unconscious content and how it is a driving force in our own being; we need to become responsible for empowering those in need of power. We need to understand that our own physic content contains the forces of injustice and no matter how much work we do for the good, if we don't look and listen inside it is all for naught.

Golub (2005) gives a definition of social action art therapy:

In my view, social action art therapy is ideally a participatory, collaborative process that emphasizes artmaking as a vehicle by which communities name and understand their realities, identify their needs and strengths, and transform their lives in ways that contribute to individual and collective well-being and social justice. But the culture, historical processes, sociopolitical context, community dynamics, and individual configurations determine if and when this is appropriate and if and how the art therapist should intervene. Art for the sake of therapy is isolated and incomplete. Art simply as a vehicle for social good at the expense of the individual risks becoming propaganda. Social action for the sake of action or ideology is misguided (p.17).

If I have learned anything from this literature review is that the field of expressive arts therapy is in a crucial position as an interlocutor between the world of evidenced-based practice and that of

critical resistance.

CHAPTER 3

METHOD

Everything would be manifest and immediately knowable if the hermeneutics of resemblance and the semiology of signatures coincided without the slightest parallax. But because the similitudes that form the graphics of the world are one “cog” out of alignment with those that form its discourse, knowledge and the infinite labor it involves find here the space that is proper to them: it is their task to weave their way across this distance, pursuing an endless zigzag course from resemblance to what resembles it.

*Michel Foucault*⁴

*—Say it, no ideas but in things—
nothing but the blank faces of the houses
and cylindrical trees
bent, forked by preconception and accident—
split, furrowed, creased, mottled, stained—
secret—into the body of the light!*

*William Carlos Williams*⁵

What is digital music technology and can it be applied to expressive arts therapy? This was the primary question that I was asking in this study. There was no textbook on the subject and I wanted to try and patch together as much information about the available digital music technologies and how they might work in an expressive art therapy practice. In the end, the answer to this question was open-ended and non-conclusive, just as I hoped it would be. How did people react to these technologies and how did these technologies react to the people? When a person pressed a button or made a sound into a device, what happens to the person and also what happens to the device? These secondary questions treat computers as personifications, an important note to make as we rely more and more on digital technology in our life. Did computers become another change agent in the mix?

To answer these questions I immersed myself in the world of digital music technology, introduced various music technologies at a community-based mobile art therapy program for children,

⁴ This quotation is from Foucault (1994), p. 30.

⁵ This quotation is from Williams (1988), p. 327.

and offered free groups to master's level expressive arts therapy students and faculty at my university.

Theoretical approach

The method for the thesis was reflexive phenomenology defined as a researcher's description of his or her own experience of the phenomenon, in this case digital music technology and expressive arts therapy (Forinash & Grocke, 2005). The reason I chose this approach to research was that it provided the freedom to focus on the story of my interactions and discovery of the potential of technology for healing. This thesis was a beginning for future research in the ever changing world of mind/body health services. Phenomenology (Forinash & Grocke, 2005) as a philosophical form of inquiry follows several principles that were suitable for my humble beginnings.

The first is complexity, meaning that human experience is ultimately complex with highly permeable definitions. Second is intentionality. This premise posits that human experience and awareness cannot be separated from *things*. The third is epoche or bracketing. This principle asks researchers to drop their preconceived views in order to experience the phenomenon as purely as they can. While I believed that this was not entirely possible, that my notions do in fact shape my aesthetic experiences on an unconscious level, I did try to provide an introduction with a self-hermeneutic that allowed a small glimpse into my epoche. The fourth idea is essence. While I believed it was import to find an essence, for example, the interface does the same thing every time you ask it to do it; I do not believe that a totalizing essence can ever be achieved for human experience. That is the difference between automata and humanity. The computer is black and white and we are not.

This thesis started in the form of many questions. Out of this process of questions, one question arose and eventually became the foundation of this thesis. What happens when you set the intention that digital music technology can be used for healing? To answer this question I looked at the technologies themselves and also at my experience of how people interact with these technologies. There is no guidebook or textbook on the subject and I wanted to patch together as much information

about the available digital music technologies and how they would work in an expressive arts therapy practice. After a thorough investigation of what digital technologies were available, which ones had already been used in therapy, and most importantly, which technologies I could gain first hand access to?

For this study, I purchased, designed and built, or already owned a small collection of digital devices and software programs that became the focus. I felt that offering information specific to the technology and how it works was an important tool that other practitioners in the field can use to conduct their own practice and research. In order to develop appropriate therapies with these devices, I spent time with them in my own studio, practicing and making music to prepare introducing them to actual human participants. I even tried various interventions that I would then use in the research ironing out as many glitches as I could. This exploration of the technology was the first part of my inquiry. An important discovery in this process of immersion was the design, production, and introduction of an entirely new digital music interface of my own invention, tentatively being called the Digital Drum Circle Interface Interface.

Working with devices on my own time never stopped during this study, but I also wanted to see how people would experience this technology. First, I introduced digital music technology to children in an after school community-based mobile art therapy program for underserved children in low income housing. Once I had a positive reaction from the children, I designed a more structured workshop for some of the high school aged participants that took place over the course of five days during their holiday break. The goal of this workshop was to create an entire rap album using digital music technology that could then be sold by the participants to help them make a little cash. I wanted to see if it was possible to turn this into money back into the community. This part of the field study was the culmination of the literature review. How does an expressive arts therapist work outside of a standard managed care environment and create strong interventions that change lives within an ethical

framework in a language free from oppression? Many people have sought this answer, but I wanted to see what would happen with my own unique concept.

The second location of my study took place on the Lesley University campus in Cambridge, MA with university students and faculty. For this, I reserved an art studio for four dates and advertised to the Lesley community via email and a flier that I posted around campus. These groups were designed to mimic what an actual psychotherapeutic group utilizing digital music technology might be like without actually being a psychotherapeutic group. The focus of these sessions was to play with the devices in a pseudopsychotherapeutic environment in order to see and hear how well these devices performed under time restraints with participants experienced in expressive arts therapies. How would the technology respond?

I designed my research protocol this way for several reasons. The most important was the particular access I had to potential populations. My internship was at a mobile art therapy site and my clinical supervisor expressed an interest in my introducing this technology to the communities we worked with. If I had been working in another setting as an intern I might have looked at testing the technology in an entirely different way. Also, Lesley University had available space to students at no cost. Due to the nature of these populations I felt that this method provided worthwhile information for my thesis.

Limitations and biases

One of the major limitations of this study was that I was not able to test these digital technologies in a truly clinical milieu. Another limitation was the lack of previously published material to help guide the process, except for a few articles that didn't offer much detail on the subject; there was no textbook to propose a theory of how to apply this work. The two studies that I did find were focused on working with people limited by extreme physical disabilities, which also means that this is the direction digital music technology has taken. It could have been appropriate to design a grounded

theory with the available articles, but I thought that was too far reaching and just seeing if the devices worked when the power was turned on was more appropriate for this stage of research in the field of digital music technology in healing situations.

I acknowledge a preconceived belief that digital music technology and expressive arts therapy combined was going to prove effective. I had no doubt that digital technology had the power to create decentering and a range of play that could be used to foster positive change.

Ethical considerations.

According to Corey, Corey & Callanan (2007) the major ethical considerations for the counseling profession are that of autonomy, non-maleficence, beneficence, justice, fidelity, and veracity (p. 17 – 18). In designing this research protocol I did the best I could to address each of these traditional helping profession values. Since there was not a strong theoretical framework to work from that was specific to the topic, much of the interventions were new, not tested, and even created by myself. Creating interventions that would cause no harm to participants was very important for this study. The crucial way that I limited this potential for harm was by making sure the clear intention of the research was not to actually do therapy, but just to play with the digital music instruments in a “challenge by choice” environment. No one was forced to participate and this was made very clear. The interventions themselves were very basic with no emphasis on identifying personal problems or disclosing any personal information. The idea was just to play, to see if play was possible, and for me to observe and note what was happening along the way. It was also important for me to follow through with whatever I offered. The principle of veracity also became important in fielding questions in an authentic and truthful manner without glossing over challenges or potential pitfalls.

The International Expressive Arts Therapy Association (IEATA) code of ethics offered some guidelines that also informed my methodology. These were not significantly different from those previously mentioned; however, the “special considerations for expressive arts therapy work in non-

ordinary states of consciousness” reminded me to expect the unexpected and to focus on making a safe environment for participants to work with these interfaces.

Participants.

The primary participants in this study were computers of many shapes and sizes, not people. However, I didn't want to write and research technology from an entirely theoretical position; I needed to take a hands on approach. I could read about the devices, but until I actually held them in my hand, stared at the interface on my computer screen, and tried to get them to function as intended, I could not fully understand them. For this thesis, computer driven technology was the main participant, but computers don't exist without people to manipulate them.

The second groups of participants were children from a mobile art therapy program. These children ranged from three years to eighteen years old, and all lived in subsidized housing. They enthusiastically attended a weekly mobile art therapy program to participate in various art projects. Their involvement in these high energy groups at the various community centers near their homes was at-will and without parental supervision. The groups were loosely structured with an introduction that contained the group rules and a demonstration of the week's project, followed by art-making, and then closing with a snack. The children came and went as they pleased and did not have to follow the project if they did not want to. The only three rules that they needed to follow were respecting themselves, respecting others, and respecting the art. Each group contained from five to thirty participants.

Within this larger group a secondary group of participants formed. My goal was to introduce digital music technology without much fanfare to see how the children reacted. In doing this, several of the older children expressed a very strong interest in working with these instruments. I saw potential in doing some more in depth work with the high-schoolers and what followed was the rap album concept. In total, that workshop had approximately twenty participants, with two primary participants

who did most of the work.

The third group of participant's were university students and faculty at Lesley University in Cambridge, MA. They freely chose to participate in up to four research groups. In total there were thirteen students and faculty that participated in these groups.

Also, I was asked to present this work in my clinical supervision class on one occasion and did two conference presentations while conducting this research. I included these experiences in my study.

Participants were not asked to participate in a protocol that was designed as therapy. They were simply allowed to play with the technology while I watched. However, the participants in the rap group and at Lesley University were given informed consent paperwork. All participants remained anonymous and no personal identifying information was included in this thesis.

For all of the groups, I introduced myself and informed the participants that I was conducting a study on digital music technology and expressive arts therapy and that this research had the goal of seeing how people interact with these devices. For the rap group, I also presented that I was looking at whether or not this workshop would be helpful. I verbally informed participants that this was not therapy, but that I was training to be an expressive arts therapist. I also opened and closed each session with a question and answer period for participants to ask any questions that might help them feel safe. Once I felt that clients understood my intentions, the action phase of the group immediately began. While each group was different, the basic structure presented was to introduce the instrument, or instruments, demonstrate the functions, and let the participants make music in an easy going way. For some of the instruments the process was more structured, but I tried to limit any intervention or directives in the structure of the play. In a more traditional psychotherapeutic group, I might have set a clear intention on a problem or asked participants to do this, but due to the nonclinical nature of this study I felt this was contraindicated.

Another difference that set the research groups apart from traditional psychotherapeutic groups

was the limited processing and sharing at the end of the digital interventions. With the Lesley groups I asked the participants if they could see this as having potential uses in traditional therapy. Originally, my intention was to ask more specific questions to these participants, but because these groups only lasted one and a half hours, including set up and break down, there was not enough time to have a formal discussion of the merits. This worked well for two reasons. First, as a reflexive study, the feedback was not necessarily as important as the action itself. Second, the research was not intended to test the effectiveness of these interventions on therapeutic outcomes. By allowing a more intensive feedback phase, this could have opened the door for people to turn the easy going sessions into therapy sessions.

Data collection and analysis

Data collection for this thesis was through observation and note taking, participant feedback, and recorded sessions. An interesting anecdote about working with digital technology was that in recording the sessions utilizing a digital recording device, on more than one occasion I erased the data before I had a chance to review it. If I had used a traditional analog device this would have not happened. A qualitative analysis of the data will be presented in narrative format in the next chapter of this thesis. The data is non-exhaustive and limited. For this study and this researcher, it was important to see if these devices worked. If that could be established, then it became possible to begin theorizing grounded theories, but that was not the goal of this thesis. This thesis was designed to provide information for other practitioners, myself included, to continue this work. The data answered many questions about some of the available digital music technologies and how they hold up to people in real time environments. The only part of this thesis that looked deeper was the workshop with the goal of creating a rap album. The data collected during these sessions showed a more in depth look at the applications of these technologies and many of the pitfalls a practitioner may face when working with a specific population. The rap album also identified a problem and created a plan, very similar to

the work done in a psychotherapeutic role. In a sense, this section of the thesis became a project within the project. There are many reasons for this. For one, there was more research on the benefits of using rap music with high risk populations to draw from and I felt it was appropriate to go ahead with a more challenging project.

The method for this thesis helped organize data from several sources so that it could be presented in clear and understandable way in the findings chapter. Ethical precautions were taken in order to protect participants, to provide a wide array of perspectives, to allow practitioners to make informed choices, and to promote future inquiry.

CHAPTER 4

FINDINGS

There are several levels to your consciousness, conscious mind, subconscious mind, superconscious mind. The superconscious mind is the higher self. We exist, though, in the conscious mind every day. The object of the spiritual life is to try to move from the conscious mind to the superconscious mind with total control over your subconscious mind. Meaning, the thoughts you think are the thoughts that come into your environment, you consciously think them, the subconscious mind brings it into your existence. It can either hinder you or help you with your higher self. The Temple of Hip Hop has been erected to organize hip hop culture so that it may arrive at its higher self. Let us watch what we say, watch how we think, and watch how we act.

KRS ONE⁶

And, they ain't leavin' 'til six in the mornin'.

Snoop Doggy Dogg⁷

Digital music technologies exist as tools for creativity. For the most part, these devices and software programs are consumer products that corporations have developed to create revenue. The market drives innovation, with the artistic creation sometimes looking like a secondary by-product to sales figures. Yet, these products are used by professional musicians at the pinnacle of fame and fortune as well as amateur artists with an audience of one to make art. We can understand the economic part of the equation, but can we truly understand the drive for creative expression? Is this the same drive that expressive arts therapists harness in the healing encounter? Can digital music technology be used for poiesis? If so, then it must have healing properties. Simply, I took as many of these devices as I could access and pressed the on button. I did not do this on stage in front of an audience; I did this alone in my studio and with groups. This chapter explains what happened after the power was turned on and the volume turned up.

⁶ This quotation is from KRS ONE (1997), side B.

⁷ This quotation is from Snoop Doggy Dogg (1993), track 3.

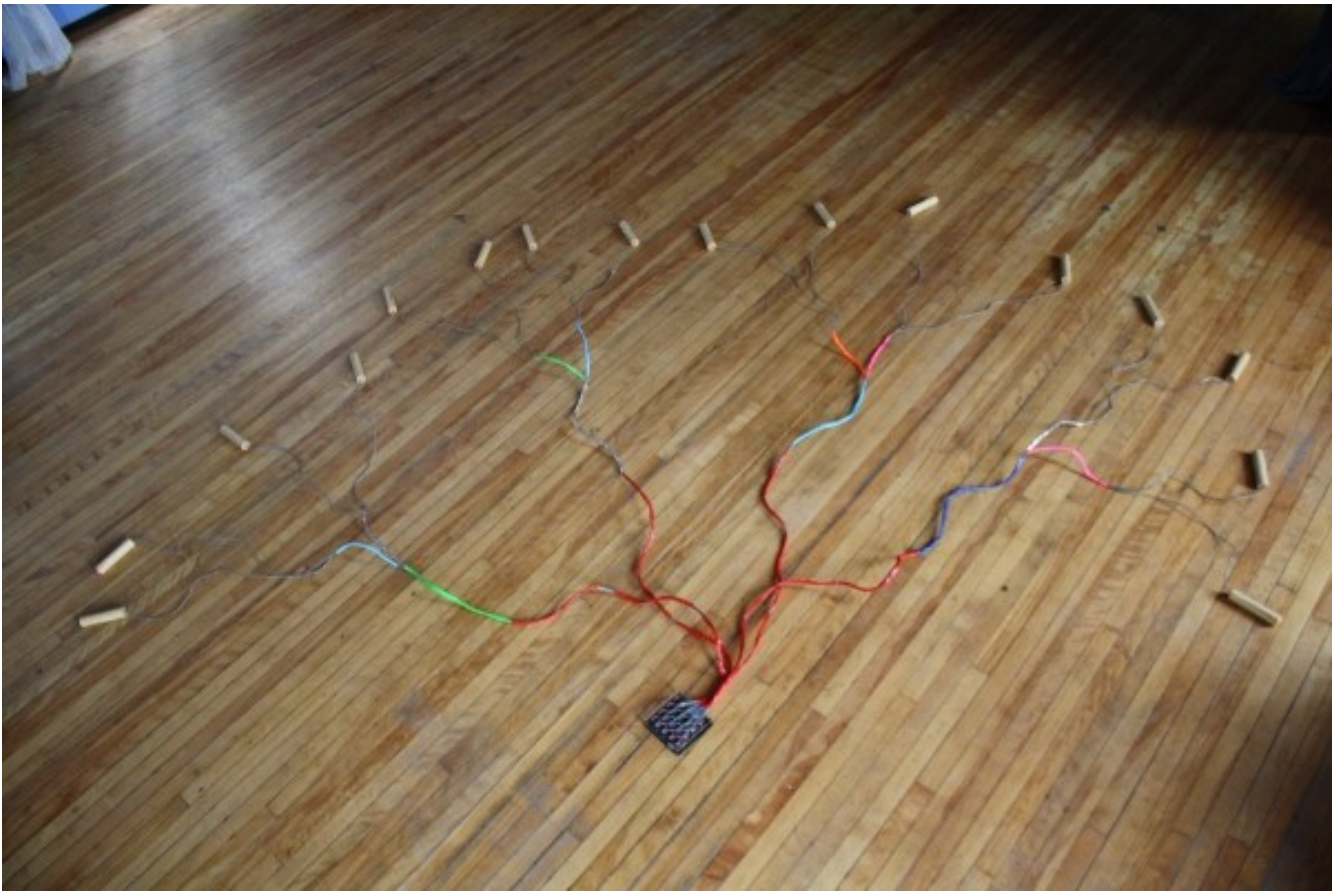


Figure 3. Digital Drum Circle Interface spread out on the floor.

Digital Drum Circle Interface.

During the course of my research I designed, built, and field tested an entirely new digital music interface. The creation of this multi-user instrument from start to finish was one of the highlights of undertaking this project and an example of the merits of immersing yourself in the phenomenon. I called this instrument the “Digital Drum Circle Interface,” but this doesn’t fully explain what it did and I am still searching for a better name.

The foundation for the Digital Drum Circle Interface was a modified limited edition MIDI controller, handmade in San Francisco, that was created to be used by laptop DJs. This device that I hacked was made up of sixteen individual arcade style buttons in a four by four grid that connects to a computer via USB. Using any type of DJ software that has the ability to assign MIDI notes, this device is made to play any musical phrase or note that you *map* to it. This *low-high tech* instrument was unique from the competition by the use of arcade buttons. There are a plethora of devices with similar features, but none with the arcade button switches. There are several reasons that I was drawn to arcade buttons:

- they were brightly colored which made them visually striking
- they were an easily recognizable and intuitive switch for most people
- they were designed to be pressed rapidly and easily
- they were built to be pressed millions of times
- they were simply to modify and required zero soldering.

My idea was to remove all the buttons from the grid, insert them into cylindrical wooden handles and attach them to the microchip circuit board via ten foot long insulated wires to create a total of sixteen individual controllers.

The Digital Drum Circle Interface did not need to be built using this preexisting device, but my



Figure 4. Digital Drum Circle Interface controller cluster.

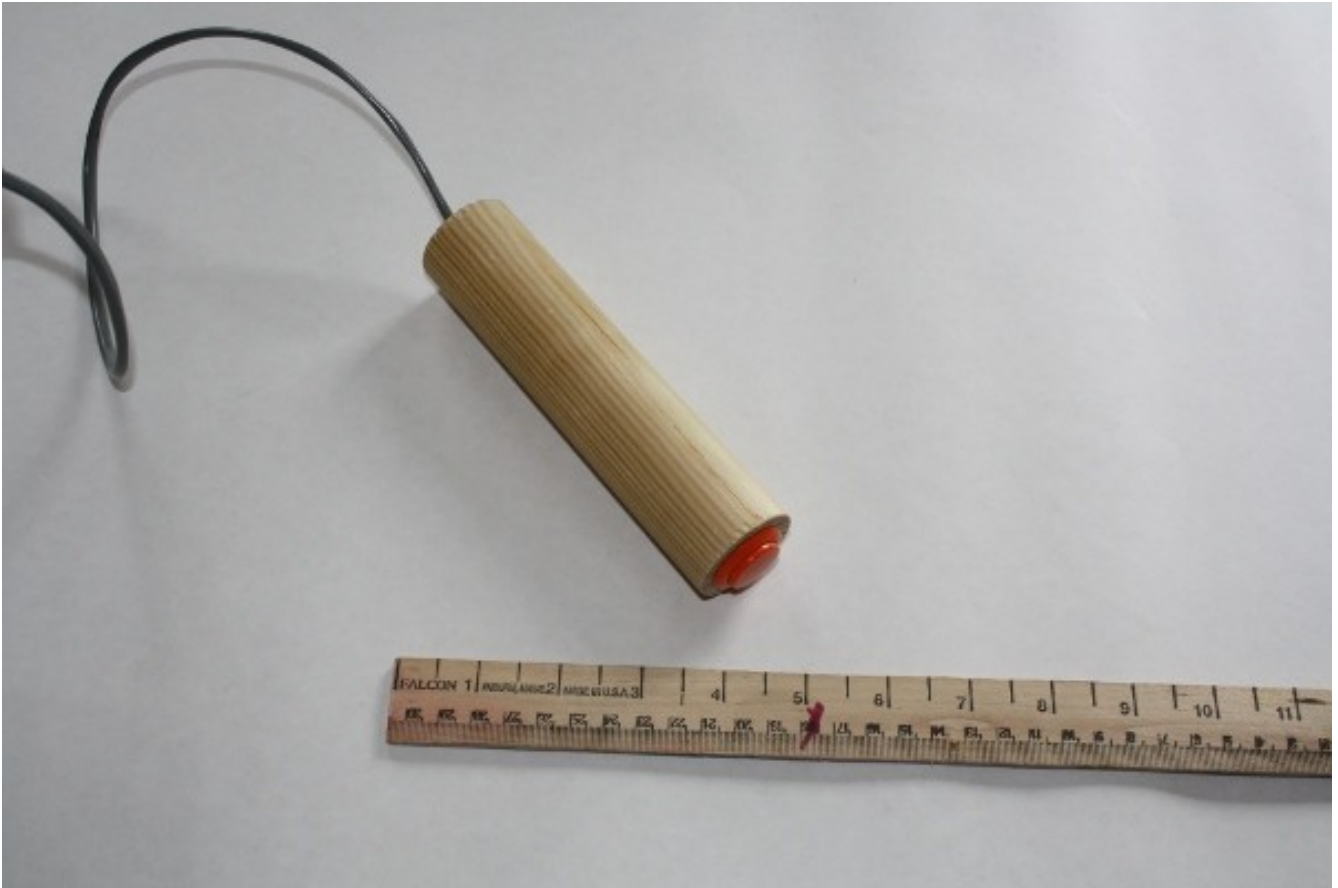


Figure 5. Digital Drum Circle Interface single controller with orange arcade button.

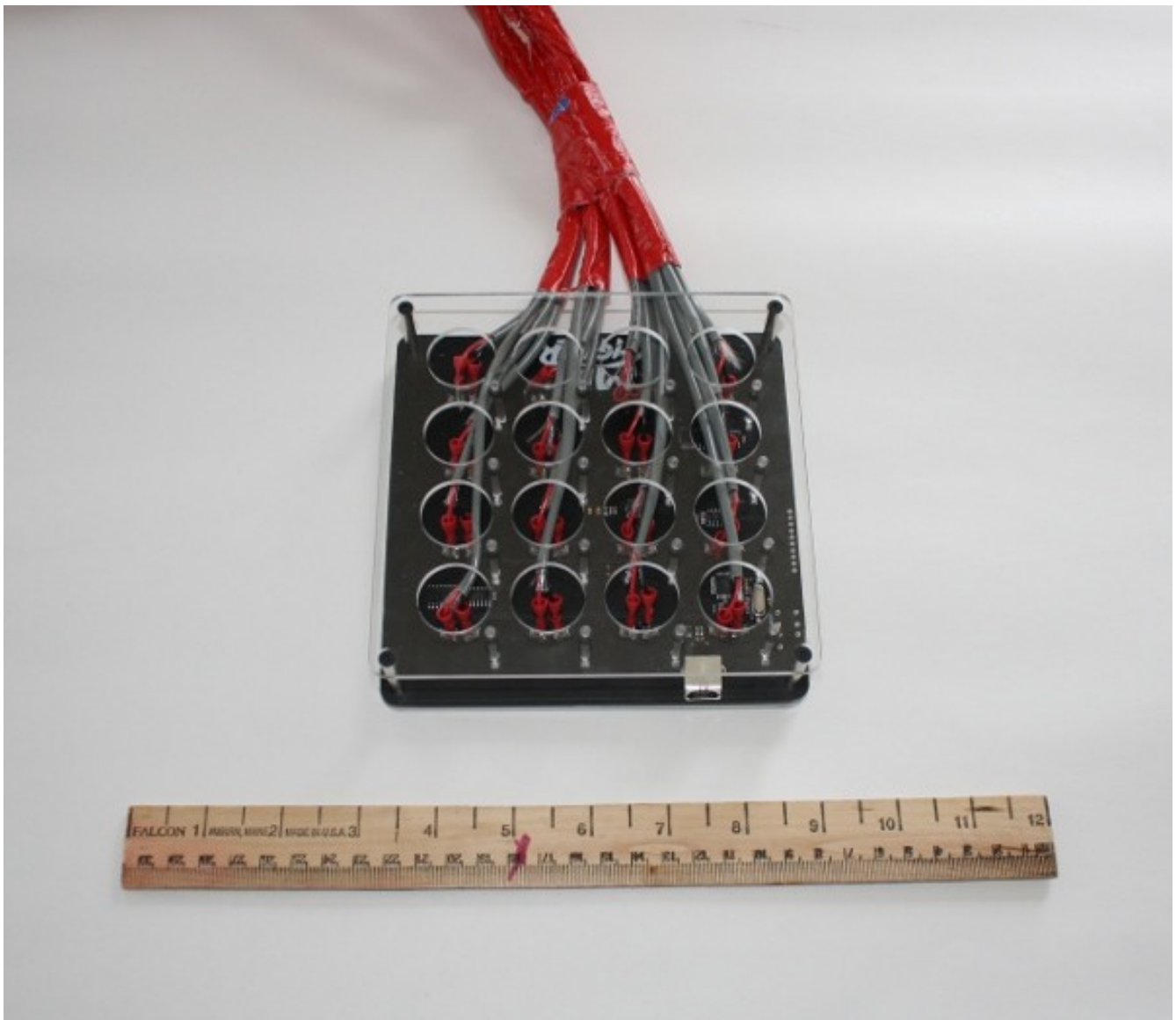


Figure 6. Digital Drum Circle Interface hacked (repurposed) microcontroller circuitry.

goal was to implement this idea in a fashion that was practicable, achievable, and cost effective.

The premise was that in a manner similar to a traditional community drumming, up to sixteen users would each get a controller (or more if less people present), each controller would have a preselected sound mapped to it, and the group could then improvise by pressing the buttons. In order to achieve this functionality, I used two proprietary software programs (1) Ableton Live and (2) Max4Live (I will discuss these software programs in more detail in this chapter). By using Ableton live and Max4Live, the different combinations of sounds were unlimited. Once I had all the wires hooked up and the software running, the moment of truth came, I pressed one of the arcade buttons and out of the speaker came a drum noise. It worked!

The primary inspiration for this device was a community drum circle in which people come together with various drums to improvise various rhythms. In my digital version of this, the users would not need traditional drums; all we needed was the apparatus, the laptop running the software and speakers to make the sounds. So now the participant wasn't banging on congas and djembes, but simply on an arcade button. On that first day that I had it working, my 18 month old son, was able to use it without given instructions. He simply picked up one of the controllers with both of his hands and started pressing the button, apparently linking his action to the sound emanating from the speakers. Ever since that, he would ask to use what he called, the *button game*. There were already some apparent limits to this device:

- no control over timbre
- all the sounds coming from one source
- sixteen ten foot wires getting tangled.

However, I was able to create a digital music interface that had not previously existed with the intention that it could be used therapeutically. This device was especially interesting because it had the

ability to use many different sound choices that could be changed with the click of a mouse and maybe even more importantly, there was very little mastery needed to press a button, compared to the years it would take one to master a traditional hand drum.

Outside of my own practice, I tested the *Digital Drum Circle Interface* in group settings six times:

- two times with children at my mobile art therapy internship
- two times at Lesley University research groups
- two times at conference presentations I facilitated at Lesley on digital music technology and expressive arts therapy.

The first time I shared this device in public was in a very energetic mobile art therapy group with children aged three to eighteen. I had been working with these children for several months through my internship, so I was not a stranger. I had also brought other digital music devices into this group in the past so this was not the first time they had experienced digital music technology. When I was setting up the Digital Drum Circle Interface, it was very hard to prevent the children touching everything and they were really crowding around me. At this early point in testing this device, the controllers were in a small children's suitcase with sixteen individual wires wrapped around the handles. As I started handing out the controllers to the children the wires became hopelessly tangled up forcing the group to be very close, with younger children literally underfoot. Once everyone got a controller that wanted one (there were a lot of children crying and yelling which was normal behavior for this group) I explained how it worked and turned the sound on. I had mapped a basic electronic drum kit and what happened next was noise, lots of noise. The children were pressing the buttons as fast as they could and no one could differentiate their sound from anyone else's.

I came up with the idea to stop and let each person play their controller solo so they could

become familiar with the sound they held (this became a standard in all the later groups). However, with this particular group, it was impossible to get everyone to stop pressing the buttons, as soon as it seemed like every one was stopped another person would press their buttons. Because no one knew whose button made what sound it was also impossible to know who the wise guys were. I gave up on that prospect and a few of the middle school girls asked if they could do a solo, but then some the middle school guys began interrupting. Eventually, some of the children got bored, leaving less chaos, and we improvised for twenty minutes or so.

Overall, I saw this as a success and was excited to introduce the project to other populations. I learned how to structure the experience and saw children ready to use this device, so much so that I was just shy of being trampled. The Digital Drum Circle Interface had worked on cue, children had been able to use it without much direction, and more importantly, they wanted to use it. What was this experience? Was this expressive arts therapy? Was this education? Was it both? Was this social action? How many poverty stricken children have the opportunity to play with a one-of-a-kind computer prototype? What is the psychic value of this experience? Is this empowerment? Is this prevention? Fun? Entertaining?

The second time I tested this device was with a different group of children at my internship site. This group was traditionally quieter and more likely to follow directives. By this time, I had become much more competent in using the device and discovered some interesting potential uses beyond simple drum samples. When I set up the device this time, I attempted to solve the wiring problem by duct taping the wire together – similar to branches on a tree. At the base there were eight wires tapes together for five feet, then four wires together for two feet, and then two wires together for another foot. This created far less wires, while still allowing the controllers to be spread out in a group. A point to make, despite being named the Digital Drum Circle Interface, the device could not be set up in a circle because it needed to be attached to a computer attached to an amplification source which ended

up creating the formation of a semi-circle surrounding the computer and amplifier.

On this day as I was setting up, a young boy with autism was sitting next to me. At this time it was only the boy's direct service provider and he and I. I asked him if he wanted to try my device by demonstrating what happened when I hit the buttons and handed him four controllers attached to each other with a rubber band (another way to make things less complicated when working with less than sixteen people). He took the device and pressed several of the buttons, looked at me with a big smile on his face, and said, "Bells". He continued to press the buttons on the controllers and I felt this was another success as I could see the expression of inquisitiveness and cognitive processing on his face.

For that group, I intended to use the Digital Drum Circle Interface as a warm up for the day's main art project, but instead of the planned fifteen minutes, we improvised various rhythms and sound games for forty five minutes and would have continued going, if the time had not crept back into my awareness. During this time everyone had a chance to check in stating their name followed by a quick improvisation of drum sounds (each participant had one controller in each hand). After this I opened several different instruments until we settled on the grand piano. Of all the tones and sounds possible, the groups that participated in my research reported that the traditional grand piano sound was the most enjoyable. However, if I had just run the grand piano instrument, the controllers would have had only one note each, for a total of sixteen notes, not very dynamic and I thought there was potential for it to be boring.

This conundrum turned out to be an opportunity for the promise of digital music technology to shine. Instead of going ahead with a basic palette of sixteen tones, I applied a program called *Swarzinator* to the grand piano instrument. *Swarzinator* was written by a German producer/composer with the Max/Msp/Jitter software and used here within the Max4Live software loaded within Ableton Live (I will explain more about these programs later). With this patch, when you hit the arcade button, instead of just hearing your note, the software was written to select random notes to play harmonious

chords with the note that you have pressed. When you hit the button you knew you were going to get your root note, but you did not know what other notes you were going to hear. You could hit it and get a really high note or a really low note in accompaniment with your root note. This patch took the basic singular note and made chords that became very musical. In a simplified essence, a person could press a single button over and over again and create a very dynamic spontaneous performance with no prior knowledge of musical theory and composition. The potential for this is profound because hitting a button is fairly low on the difficulty spectrum for most people and to be able to hit this one button and make something very musical and dynamic is powerful, especially for someone who has had difficulty learning music or with no music training.

This was the first time I tried this with people and as one child pressed his buttons I watched him make a perplexed face as each time he hit the button but heard the random notes. He said, “That was not me.” However, he knew very well that that was him, but also not him. In a true therapeutic environment this could be used as a starting off point for opening up the therapeutic work, but in this situation I just observed. This group was also the first time that I attempted recording the sounds of the participants through a microphone, into the software, and then back onto the buttons. I was still developing this idea and was only able to get one phrase, “I love giraffes,” but the young girls with this phrase mapped to their device, would hit their button, trigger the phrase, and laugh.

These two introductory experiences of using the Digital Drum Circle Interface in groups with children had given me the sense that I had designed something with real potential. I created this device to be put to work as an instrument for expressive arts therapy, but before I would feel comfortable bringing it to that role, I wanted to see if it would function and be engaging. I had turned it on and the participants were engrossed. Beyond that, there were several lessons that I gained from these experiences.

The mechanics of the interface was intuitive, but the wires were cumbersome. The children

wanted to press buttons, but not necessarily with music or rhythm in mind. The set up was simple and my computer did not crash once. However, the downside to the ease of use was that preparation and set up was time consuming. Learning the software was difficult. The more I spent working on the programming end of things the better the product that I was able to deliver, but the limits were also the limits of my creativity and programming ability.

While conducting my research at Lesley University, I was able to test the Digital Drum Circle Interface on two occasions. For these groups, I was much more nervous than the previous groups with children for several reasons. More than anything, I was nervous that no one would show up and because these were my peers and professors. Thankfully, these groups were positive and the two faculty members who attended offered a supportive dialogue. The Digital Drum Circle Interface experiences that I had during these groups allowed me to test my ideas out and get immediate feedback from people trained in the field of expressive arts therapy, music therapy, and art therapy, as well as traditional psychotherapy. Once again the grand piano was the favorite and loud laughter was consistent through the entire process. However, if the instrument that I programmed was not aesthetically pleasing to one of the participants he or she would tell me and I would try something different. Because of time constraints, I was not able to get as much feedback as I wanted, but this was also important feedback in itself. The instruments I presented, not just the Digital Drum Circle Interface, captivated my audience. While laughter and joy appeared in all my groups another emotion that I saw on the faces and postures of my participants was that of processing. People were thinking. Was this process decentering? What was being harvested?

The first time I introduced the Digital Drum Circle Interface in Cambridge, we went through the traditional community drumming, but I was still trouble-shooting using the participant's recorded voices as sounds to replace the drums or instruments. During these Lesley groups I was able to develop a practical structure for this conceptualization. I asked one of the participants to say anything

into the microphone so we could test an interesting application of the Digital Drum Circle Interface; my only stipulation was that it had to be clear. The reason for this was that I wanted the phrase to start unadulterated because I had set the software up to change it and the clearer the phrase, the more straightforward it would be for us to differentiate the changes. The person said, “Water.” As he said this I recorded this phrase into the *Sampler* instrument in Live, according to the manual, “playback is only the beginning; its extensive internal modulation system, which addresses nearly every aspect of its sound, makes it the natural extension of Live's sound-shaping techniques (p. 368).” An oversimplified version of this powerful instrument was that it allowed the user to play the sample with a keyboard. In the group when someone pressed their button, the sample “water” would be played like a note but with a very different outcome. I also loaded the Swarzinator patch to further randomize things and we played the sample in an entirely different way with much laughter, random shouting, and yelling by the master's level students and faculty.

The second Digital Drum Circle Interface session at Lesley was with an entirely different group of participants and this time contained no faculty. My agenda for this group was to further practice mapping group members recorded sounds to their arcade buttons. The basic structure of how I did this was to ask each individual participant to say a word, phrase, or sound into the microphone on my cue. Before I made my cue I would press record and after he or she finished, I would use the mouse to set the beginning of the phrase to exactly the point when their voice started. Doing this simplified the process for me and made it so when the participant pressed his or her button, he or she would hear their sound immediately. If I had tried to time hitting record in unison with each person, the entire process would have taken much longer as each phrase would have taken several takes to get just right. Once I set the cue point on their phrase, I would use the mapping function of Live and simply ask the participant to hit his or her button once. Once this process was complete, the participant would have his or her unique sound armed to his or her button to be triggered at-will. If they pressed it quickly and

repeatedly it would be sound like human stuttering and if they just hit it once the entire phrase would play out.

Once everyone had recorded their phrases, I explained that we could use these noises as replacements for the musical sounds we had been using, but in the same fashion. We were going to drum with our recorded voices. After several minutes of this I asked if they wanted to record a song. The participants agreed and as we pressed the buttons the computer recorded our improvisation, enabling us to listen back to it once we finished. In all of my groups, I noticed an interesting phenomenon: there is a distinct difference between the making of sound (either vocal or instrumental) and listening back to the sound you have created. This was the only group at Lesley that was entirely devoted to the Digital Drum Circle Interface and as with the other groups time ran out before we could spend too much time on feedback.

However, something happened at this group that did not happen at any of the other groups - spontaneous dance. In the first Lesley group we practiced drumming together while standing up which lent itself to some head nodding, but at this group one of the participants actually got up and asked if we could try a call and response between movement and sound. He wanted to move based on the sounds that we were hearing and he wanted us to make sounds based on what we were seeing from his movements. As I witnessed this movement/sound dialogue I thought of my training at Lesley and the idea of integrating all of the arts. If the next step was setting a clear healing intention, the power of this instrument for expressive arts therapy was apparent.

The potential to use this device therapeutically is large whether working with individuals or groups. The groups for my research produced some interesting sound, sometimes musical and sometimes not very musical. However, it was my experience that the overall ease and quickness of facilitating such a powerful digital experience was proof that the Digital Drum Circle Interface concept could create a therapeutic alliance through sound. It is important to note that as the participants

attentively listened to the sounds, the more they practiced, the more competent they became. The Digital Drum Circle Interface could be set up, the sounds could be assigned to the controllers, and the participants could be shown that their buttons produced sound. The learning curve for even a profoundly disabled child was measured in a second. It was a mix of a low technology button and a highly complex software program.

The Digital Drum Circle Interface was created to utilize some of the most cutting edge music software technology available in a way that any person with the ability to press a button could participate. Through this experience, the digital drum in interaction with several diverse populations, I saw it work as planned and I saw participants express joy, intrigue, and laughter. However, of all the phenomena I experienced with the Digital Drum Circle Interface, the most significant was the stimulation of thought. I saw people look inside and ask even though I didn't know what questions they were asking. Not a single person in my research verbally expressed a negative thought about the Digital Drum Circle Interface, except when someone disapproved of a high pitched sound. How was having fun therapy? Fun wasn't meant to be therapy, but if the goal was to engage previously unengaged clients, then this tool would be indicated for a positive result.

Sound on sound live looping

Live looping is a technique used by musicians in production and performance that also has strong potential to be used in expressive arts therapy. The basics of live looping are fairly simple. A device known as a *looper* (these can be standalone hardware, computer software, or a combination of both) records a phrase that is then played back in a loop. When the looper gets to the end of the phrase it starts back at the beginning without any gap, repeated over and over, until the user presses stop. While this alone could be sufficient to create a background sound scape, the real possibility for live looping is the ability to record more and more sounds onto the phrase, a process called sound on sound or more specifically, overdubbing. For example, a musician can record a rhythm guitar phrase of as

many bars needed onto a looper and then play lead guitar while the loop is playing back. The looper device in essence turns one guitarist into two. This same guitarist could also lay down a bass section to the same loop, now creating three parts all recorded by the same musician. In theory, that musicians could then overdub onto this loop ad infinitum. For live looping in expressive therapy, the goals would be different, but the technology remains the same. A practitioner might have a group pass the microphone around the circle with each person humming into it or singing. The loop can be short or long. As the loop builds, it changes. As more sounds are recorded onto the phrase, the loop becomes more and more dynamic, sometimes sounding like a chant or other worldly.

Live looping could be a very powerful technique for decentering. Live looping was a major impetus for this thesis. The device that I used for my research was the *Boss Loop Station RC-20XL*



Figure 7. Boss Loop Station RC-20XL Phrase Recorder.

Phrase Recorder (see figure 7). It is primarily designed for electric guitars, but it could also be set up to input any signal. The major limitation of this device comes from it being designed for guitars; the quarter inch inputs and outputs produced mono as opposed to stereo, which means that the sound quality was slightly less dynamic. Another sonic drawback to using live looping devices is that recording all that sound onto just one phrase also reduces the polyphonic quality of the sound (reference to manual). This battery powered device was fairly easy to use because it was controlled mostly by two foot pedals, and was designed to be able to stand up to rough use. Live looping was possible with computer software; however, there were benefits to using hardware over software. Hardware devices like this are still computers, but they were designed to do one thing and to do it well. This makes them much more reliable in the sometimes chaotic environs of therapy.

Another potential problem with personal computers is that we run many different software programs on them, which in turn eats up memory on the hard drive and also slows down the processing speed. Computer software can be glitchy, especially when your personal computer is not dedicated to just music technology. When you are using your computer to write papers, surf the web, and all the other things that we do daily on our computers, this pulls precious memory resources away from the processor that can lead to unfortunate crashes, especially when the computer is trying to process large amounts of audio data.

The Loop Station was the first digital instrument that I introduced to my research participants. It was battery powered, portable, and took little time to set up.

This was the perfect device for the rowdy group at one of my internship sites; the same group that almost trampled me to use the Digital Drum Circle Interface. In the weeks leading up to that experience, I brought the Loop Station to the community center in which we did groups, and set it up with a microphone and a portable speaker before anyone was out of school. On those days I would

open the community center early so some of the older boys could come in and practice break dancing. On this day, I took the time before anyone was there to assess the acoustics of the space and to get an idea of how long it might take to do an exercise with the Loop Station.

On the wall was piece of paper for each month and the corresponding names of people with birthdays on those months. I pressed record and said all the months into the microphone slowly with a pause in between. The recorded loop phrase was well over a minute. I then filled in the gaps with the names, creating a chaotic phrase of overlapping names and months. In planning how to introduce this technique, it was important to note that the capacity to record one loop phase sixteen minutes long with this device could make pace an issue (listening to the loop three times would take almost an hour). Eventually, the children started to get off the bus and I wondered if they could hear the sounds coming from the community center. Eventually, they started peering into the windows and knocking on the door, wanting to come in and see what the commotion was all about. They started grabbing for the microphone so they could add to the loop. A four year old girl came in and asked me to lift her on table and started making noises into microphone. I asked her to say words into the microphone and at first she couldn't, eventually she started humming things she saw in the room. In total she held the microphone in her hands for almost a half an hour, until some older boys came and asked her to leave so they could try. To this she got upset and waited for another chance to hold the microphone (she had several more that day).

When the break-dancers came in they stood around the loop station and wanted to see what it did. With my help, one of the boys was able to record a loop, using the hip hop technique called beat boxing. It sounded great and he and his friends started break dancing to the music they created. This all happened with almost no intervention from myself. I had helped by getting the timing of loop correct and working the device, almost like the conductor of an orchestra using my hands to show the meter and motioning when it was time to go and time to stop. We repeated this for several weeks in a

row dancing, rapping, and live looping. Sometimes the older kids would get mad at the younger kids because they were not good enough, but I felt like it was important to let everyone have a try regardless of whether or not it sounded good. It was through these experiences that I decided that it might be possible to work more in-depth with these older boys to create a mixtape. When I proposed this to them, they were very enthusiastic.

I also brought the Loop Station to two of my research sessions at Lesley University. The first time, live looping was almost the entire focus of the group. We began by introducing ourselves by recording our names onto one loop phrase and after everyone was on the loop we added more and more sounds. After that, we experimented with nonverbal looping and created what sounded to one of the participants like we were in the middle of the jungle. This was my first research group at Lesley and I had not yet finished the Digital Drum Circle Interface. One of the participants reported that her menstrual cramps went away after the live looping. Another participant made an analogy between the literary device called an exquisite corpse and live looping.

The second time, I set up the Digital Drum Circle Interface, letting people play with it if they wanted to. While I was focused on getting the software loaded and running, I could hear people making loops and playing without my direction, but I didn't follow up.

This was perhaps the simplest technology I offered at any of my research experientials, but it could also be the most powerful.

For the two presentations I did at Lesley, I used the Loop Station as a way for the participants to check in. Instead of going around the room and asking everyone to say their name and share why they were there, I would pass a microphone and have people share their names onto a loop.

Korg Kaoss products

While surveying the available digital music technology I came across a line of self-contained and portable computers made by the company Korg that I believed had interesting potential for

expressive arts therapies. Korg Kaoss products are built around a square touchscreen that gives you control over the device with your fingertips. These touchscreens are very similar to the built in mouse of a laptop computer. Therefore, instead of having a large piano keyboard stretching out in front of you, everything is controlled by the small square touchpad that you simply touch, rub, or tap with your



Figure 8. Korg KP3 KAOSS PAD dynamic effect/sampler.

fingers. There are currently five commercially available devices in this line and I looked at three of these devices for this thesis.

The *Korg KP3 KAOSS PAD dynamic effect/sampler* is not hand held, not classified as desktop, and is not battery powered, but is still a powerful desktop effects processor in a small package. The primary function of this device is to change sounds that the user feeds through it. There is a selection of 128 effects ranging from high/low pass filters, granulators, delays, etc. To someone not knowledgeable about what that means, the basic premise is that you select an effect and when you press the touchscreen, it changes the sound that you hear. For example, if you are running a microphone through the KP3 and select the vocoder effect, which is a type of synthesized robot voice, when you talk or sing through the microphone you will hear the robot voice. As you move your finger around on the x'y axis (left/right ' north/south), it changes the parameters of this effect. This device is not a synthesizer in the traditional sense, it only has a few sounds programmed into it, it does have four buttons on which sounds can be recorded or sampled and then played back. The KP3 is designed to change sounds on their way from the source to the output, whether that is to headphones or amplifiers. For example, you could run your Mp3 radio through the KP3 and apply effects to it with the touchpad so that whatever you are playing now becomes synthesized and something new.

The *Korg KAOSS PAD Dynamic Effect Processor mini-KP* and *Korg KAOSSILATOR Dynamic Phrase Synthesizer* are battery operated devices that are fairly inexpensive, readily available used, and handheld.

The *Korg KAOSSILATOR dynamic phrase synthesizer* is a handheld synthesizer with the trademark x'y axis touchpad (there is a desktop version with the same footprint as the KP3 that exists called the *Korg KAOSSILATOR Pro* with more features, a more capable microchip, and more dynamic sound, but it is not battery powered nor handheld). The *KAOSSILATOR* has one hundred sounds programmed onto it that are broken down into the following sections: lead, acoustic, bass, chord,



Figure 9. Korg KAOSILATOR and miniKP.

Special Effects, Drum, and pattern. For example, to select the trumpet sound, you use the rotary dial and when you press the x'y touchpad and move your finger from east to west on the X axis, this controls the note. As you move your finger north to south on the Y axis, this controls a special effects (FX) parameter that varies with the program selected. There is also a built in gate arpeggiator function that when selected adds more complexity to the tones. The KAOSILATOR takes a synthesizer keyboard and shrinks it into something that can be held in the palm of your hand. Along the same lines is the portable and battery powered Korg KAOS PAD Dynamic Effect Processor. This device is a handheld version of the full sized KP3 effects processor mentioned earlier. What this means is that there are no sounds that come out of the device unless a sound is input into the device. This can be done very effectively by linking the KAOSILATOR to the mini-KP or running a microphone through it and applying effects to your voice.

Many times I would feed the KAOSILATOR and a microphone into the Loop Station, which would be fed into the mini-KP and finally into a portable amplifier. All of these devices were battery powered so portable setup was easily brought into the field without risking damage to my laptop.

During this study, I found myself going back to the Kaoss products more than any other because of the simplicity of use and ease of setup. It was interesting to use these devices with voice, you can apply delays, robot voice, you can apply reverb that will make your voice sound like it is deep in a cave or even underwater in space. All of these applications could have a place in expressive arts therapy, especially if the focus began at decentering. This simplicity matched with the well-engineered processing abilities of these devices made them an excellent choice for this research. However, I did not use them very often in my groups and when I did there was not a very strong response. People appeared timid to try touch the touchpad. This could have been because these devices are more suited for individual experimentation than in group. Personally, I found myself going back to these instruments on my own more than any other type of digital music technology. It was so simple and

easy to start making a little music to wind down at the end of a long day. I would just plug in some headphones, tap the touchpad, and relax.

Samplers.

The Roland SP-555 was the first digital instrument I purchased to be used in a therapeutic milieu when I was working as a clinician in a yearlong adolescent treatment facility for substance abuse. It was expensive, even when purchased used, but had several functions that I felt could be used for expressive arts therapy. The main function of this device is the sampler. This means you can sample anything, once again a device without sounds built into it, but you sample the sounds into it. Each of these sounds is assigned to one of the sixteen velocity sensitive pads (striking the pad harder produces a louder sound and striking the pad softer produces a softer sound). Samplers have played a crucial function in hip hop music. In the beginning, rap producers would sample a hook (that is the part of the song without the lyrics) and this would become the “beat” of the rap song.

With the Sp-555 you can put up to 160 different samples on one memory card. The creative possibilities to this are only limited by the facilitator and participant creativity. Another function of the Sp-555 is that it has a loop capture function on it so this device can be used for live looping which I will explain in the next section. This device holds significant potential due to its live looper and ample amount of storage space. It also has an entire effects rack that can be used just like a Korg KP3 and miniKP. Instead of the x/y axis, you use knobs that spin to change the sound as it is playing in realtime. It also has an infrared sensor called the D Beam controller that senses the distance of an object up to about a foot or two. This can be used to trigger the built in, very limited synth (a word?) by lowering your hand closer and farther away from the sensor. This can also be used to trigger samples or change the cutoff frequency.

Overall, the SP-555 is a powerful tool that can be difficult to learn and is quite expensive.

There are many other commercially available samplers and anything made by Roland, Boss, and MPC

should be of high quality. I did not use this device for this study. Software has made these devices outdated, but the industry is indebted to samplers and their availability made them an important note for this thesis.



Figure 10. Roland SP-555 sampler.

Software.

There are two software programs that I used for this study: (1) Ableton Live and (2) Max/Msp/Jitter. Live is a Digital Audio Workstation (DAW) used to produce and perform digital music. There are many other DAWs that exist, some of the big names are *Cubase*, *Protools*, *Logic*, *Reason*, and probably the most basic and user friendly one, *Garageband*, which comes standard on all current Apple computers. All of these software programs are powerful with great potential and in some cases a very sharp learning curve and cost. Some of this software is used by artists to create the music we hear on the radio. Without spending an exorbitant amount of money a person can buy the exact technology that a multiplatinum artist uses to make professional music. Another DAW that has been very popular is the Audacity which is free. What makes Live different is it can be used non-linearly. The website for this program states:

Live is the only music production software with the 'Session View': a unique grid for recording and playing musical ideas and phrases. The Session View is non-linear, so you can record and play back your ideas in any order you want. When you're working on a new track, this is a smart, flexible way to write and record. If you're performing music live, it gives you complete flexibility and freedom to improvise.

Another reason that Live stands out amongst the other DAW is that the visual programming language Max/Msp/Jitter can be run within it using an add-on called Max For Live. *Cycling '74*, the software company that develops Max writes that their product is:

An interactive graphical programming environment for music, audio, and media. Max is the graphical programming environment that provides user interface, timing, communications, and MIDI support. MSP adds on real-time audio synthesis and DSP, Jitter extends Max with video and matrix data processing, and Vizzie is a set of modules for quick and unique video creation.



Figure 11. Ableton Live screenshot.



Figure 12. Ableton Live, Max For Live, Max/MSP/Jitter, and Schwarzonator.

The combination of these two software programs using Max For Live means that a programmer can create any possible video or audio environment. The only limits are the constraints of the programmer and the processor capabilities of his or her computer. This is also the major downside of these to programs. While being so full of creative possibilities, these software programs are expensive, require expensive computers, and are quite difficult to master. This software is not something that you can just install onto your computer and know how to use. I am still learning how to use these software programs. Live have several versions that increase features parallel to the price. Using the student discount available, I purchased the full suite at a deep discount. This version has many gigabytes of built in sounds and instruments so it could potentially be the only digital music instrument you need. It also has a built in looper. I was not able to get this to function at a level that I felt comfortable using it with research participants. I used Live to record the rap album which I will discuss in the next section.. The Digital Drum Circle Interface was designed to run with Live and Max exclusively. An example of using Max was the decision to use German musician Henrik Schwarz's device called the Schwarzonator. Here is what the website says:

The Schwarzonator is a note twister. It's all about helping musicians (or non-musicians) find the right notes and chords in real time. It turns one finger playing into chords that fit together well. Choose from a list of Chord Sets in a drop down menu. Then all notes you play on your keyboard will fit into the selected Chord Set.

While this was programmed to help musicians perform together, it helped turn the single notes or buttons of the Digital Drum Circle Interface into great music, and could only be used with this combination of software. Live can be controlled with your computer key board and mouse but it is really designed to be used with external devices. The most common of these is any basic MIDI keyboard. However, there are some interesting devices specifically designed to take advantage of the nonlinear session view of Live. For this thesis, I looked at the Novation Launchpad (see figure XX). This device is a controller designed specifically to be used with Ableton Live. The Launchpad is a

grid-based controller with eight rows of eight to make a total of sixty four buttons that “launch” whatever you assign to them. The Digital Drum Circle Interface works on principles very similar to this device.

When I used this device to DJ breakdancing with teenagers at my internship they loved the ease of use. One of them really wanted to know about it and I showed him how you could take one song and break it into parts so that each of the buttons on the grid plays a different part just like a DJ.



Figure 13. Novation Launchpad.

The hip hop mixtape.

For several years now, I have been trying to record a rap album with high risk adolescents using digital music technology. When I was a clinician at a residential adolescent substance abuse agency, I only got far as the planning stage. After a freestyle rap group, the residents and I sat around a table and came up with ideas for songs about various themes related to substance abuse, recovery, and a healthy lifestyle. There were many factors that prevented this concept album happening. The major deficiencies being

- my lack of audio engineering skills
- the clients' lack of rap skills.

This idea of creating a rap album was very important to me because I felt it integrated various art modalities such as poetry, music, visual art (album cover design), and dance. I also felt it went beyond process. Having a product would be beneficial also. Teenager freestyle raps on a microphone for three hours, but doesn't have anything to show for it. *Everyday I'm Struggling* had been the mantra of this group and that was what I saw as an important theme with many of the groups that I was working with in my internship.

When I introduced live looping to the kids at one of my internship groups, several of the older kids starting rapping, and rapping well, then I thought it would be a great opportunity to try again. They were enthusiastic about it, so I set the dates during their holiday vacation. The group was going to meet for a total of six times during the two week break, with each session lasting two hours. We ended up meeting a total of five times with the groups lasting three hours. These groups were held in a low income housing community center.

In retrospect, this experience was the most enjoyable, yet difficult part of this thesis. What did this do for the kids? What was I trying to do? Was this giving and taking? What was I giving? I

exposed these kids to a new experience, a new challenge, an opportunity for expression, catharsis, a sense of accomplishment, a chance to make some money, a change in self-perception, an infusion of value, and something fun and positive to talk about. What did I take? I felt I was overcoming challenges, overcoming fear, and accomplishing an important goal. These two weeks were a developmental milestone, even though the project did not accomplish all of the intended goals.

In our final wrap up session, one of the participants said, “I felt like you wanted us to come in and have fun and then say it as a great experience.” Which I took to mean that I was coming into their neighborhood wearing rose colored glasses and trying to save them. In that moment my response to this sixteen year old was, “My dream was that we could have some fun, sell it, and you guys could try to make some money.” Was my goal to mix work and play? The responses from the participants to this idea of play was different from the idea of range of play in my textbooks. One said, “If we didn’t play around, if you didn’t bring the kids in, we would have gotten a lot more done.” This was a reference to me letting the younger kids come into the community center, not to make music, but just to be part of it. Another said, “I feel like you don’t know what you are doing because playing is not an aspect of working.” To that another added, “You just wanted to have fun.”

We had worked for two weeks and things had not always been fun, but I was enjoying this dialogue, it was the first time these two had really opened up. I said, “Where I’m coming from is a little different than we’re trying to make this really sculpted perfect art object. I’m trying to say, I’m trying to find out if this is worth doing, if this helpful?” To which one said, “it’s not about fun at all.” I said, “In the future when I do this with other people how should I go about it? What kind of advice can you give me?” He told me, “The traditional way is the way to go, easy. Plan things out, know what you’re doing.” Was he right? Was I totally clueless? Was this project a total failure? In two weeks we had recorded hours of material that I edited into twenty songs. I had made my album, but what about them? I said, “Do you think it would have been better if you guys came into... an actual music studio?”

The responses were, “Oh yeah,” and “the environmental does play a part. If I was in a studio it would be so much easier for me to be serious, it would be more inspiring, and official. If it’s official. I ain’t playing around.” And there it was, play was contra-indicated, but what had transpired over the last two weeks? How had we gotten to this place?

For these sessions I brought my laptop computer with Live, a digital/audio interface, two microphones and a loud amplifier. My intention to create the beats and the lyrics had been replaced by using prerecord instrumental tracks from popular hip hop songs when I realized the impossibility of achieving that in the time I had.

When I first asked one of these youths (J) how the experience of making a mixtape might help him, he told me that it would help him get out his emotions. When I asked them to rewrite a famous song to include a chorus of “everyday I’m struggling” they refused. My goal was to work with these kids over the break to create the beats and the rhymes of an album. When the album was finished I was going to get one hundred copies professionally made so we could all work on trying to sell them for a profit. When I shared this with the two youths that participated, the conversation went like this:

Z: How much is each CD going to get sold for?

Me: Ten dollars.

J: I don’t think we are going to get ten dollars if we’re not noticeable. You know that’s not even allowed. You can’t do that. You can’t sell, like that’s hustling.

Me: Yeah. That’s right. That’s what hip-hop is. It’s street entrepreneurialism. We are not going to do anything illegal.

Z: Is that \$1,000 for one hundred copies? Holy Shit.

Me: Fair way is to split it evenly a third each. Is that fair? That doesn’t mean we are going to get cash. We are going to have to sell one hundred CDs. I don’t know how hard or how easy it is going to be. But that’s down the road. WE have to actually make some music.

There were a lot of unknowns. Would people buy the CD? And if so who would buy it? These questions never got answered because at that closing session it was decided that we weren’t going to release it. This sounded like failure, but it wasn’t. One of the participant’s older brother who we will call X was an audio engineer with a fairly successful rap group of his own. He sat in on some of our

sessions which was very disruptive to the process, because the boys were so intimidated that they froze up. Here is some of the conversation about X.

Me: Do you think X would have taken you guys serious if he hadn't seen you trying so hard?

Z: What do you mean?

Me: You guys told me that X never ever in the past was giving you any attention.

Z: He never gave us any chances, ever. It's funny because after this experience is when he took us seriously. After this experience is when everything got serious... he's letting us make music and we are still making music. We made like three songs in the last two years and now we got three songs done in a night.

J: We've been up till like five in the morning every single night. We were up till six in the morning last night.

Z: It also doesn't help that when you come you are only going to be here for three hours. To make a good song takes time.

Me: Well I learned a lot too. I mean I'm not trying to be a rap producer but I appreciate you guys sticking with me and not just bouncing. I had fun. We are completely different generations.

Z: Which is funny because we were trying to do it the old school way and you are trying to do it the new futuristic way.

It was great to hear these kids were working with me and my high tech software during the day and going home and staying up all night making their own songs with a person much more talented at producing rap music than me, who also happens to be an older brother who had never given them a chance in the past.

What did it mean when he said that I was trying to do things in a futuristic way? First, when I came in they were not patient enough to sit with me and create beats on the computer. To solve this problem I downloaded "instrumentals" of popular hip hop songs with the voice tracks removed. The participants were supposed to bring their written lyrics which we would then record with the beats. However, when they arrived the first day the amount of written content that they actually had was limited. My solution for this was to have them just freestyle as much as possible and then using the software I would then take out all the bad stuff leaving just the good stuff. This solution worked well for gathering content and they would rap on one on the beats sometimes for as long as twenty five minutes. It made editing decisions very hard because several of the trimmed songs were still over

twenty minutes long.

These long freestyle sessions could be considered the golden days of this project. I would hit play, sit back, and listen to these two just say whatever was on their minds, laugh, and dance. In the editing process I could hear the squeaking of sneakers throughout the songs, which was profound considering that they were freestyling at the same time. After one of the group's J said to me, "long day. Huh? That was fun. That was the funnest thing ever. We did so much. It feels so cool on the mic. I love it." So why did tension start to surface ultimately leading to the decision to not release the mixtape? In that same conversation about how great it was, J ended by saying, "I want to hear how it sounds."

Listening back to the recorded material changed everything. They became embarrassed and when their peers came into the community center to dance (I allowed them to) they would not let me play any of the recorded music. So what happens when the record button is pressed? Nothing changes in the moment, a little more awareness of posterity that probably wears off after a little while. So the record button remains hidden, that is until the play button is pressed and then nothing remains the same. For the two young men who did the vast majority of the work on the mixtape, hearing back songs that mentioned personal vulnerability, told stories of hyperbolic heroism, and even womanizing made them very uncomfortable. In one of the planning conversations, Z asked the question, "What is the first step?" To which I responded, "We have to plan. First, what are you guys trying to say?" To which he said, "We are talented." Maybe, we should have been more mindful of the message, but was it the message that was disturbed them or just the hour long mixtape of them rapping and singing?

The first question I asked after we listened to the final version was, "Do you think it will embarrass you?" To which I got the answer, "Yeah, what if one of my friends mothers get it." Was that a consequence for saying whatever you wanted? Probably not something they were thinking about in the moment. For example, when I was asked, "Can I say that?" even though they had been saying

whatever they wanted the entire time including some really inappropriate stuff.

I also asked the question, “Do you think having the pressure to make money ruined it?” To which Z responded:

“No, I don’t think it has anything to do with the money. What we trying to do with X. Money is in the future, but right now we are just showing our stuff without making anyone pay for it. Lil Wayne doesn’t sell his mixtapes and then when the album comes out everyone buys it. Money wasn’t the problem it was making the product. I was worried about lyrically how we were coming out and what people were going to think when they heard it and its crazy because the songs we just put out with X. I’m not particularly proud of, by my standards they are not good. But people are hearing them and they are saying hey that's nice and they're putting it on their iPod at the high school and its like... hmmm. So I don’t know it’s just like I know what good is and I feel like people don’t know.

I really wanted to know what they gained from the experience. It was my opinion that even if the final product wasn't perfect and I wasn't going to be able to see if it could be saleable, I still believed there were gains. To answer this question Z told me:

after I would leave here I would go home and I was like writing all the time. You asked me if I feel like I got better and I said yes, but I wasn’t talking about the experience made me better like coming in and trying to freestyle made me better or recording stuff made me better. I’m talking about how when we left here, because I consider this like a fail. We came in we didn't have a strategy I tried to organize it, the lyrics were bad. So when I walked out of here I knew that we could do better if we had more time and we were more prepared the situation would have worked better. So ever since then, ever since that point, I was freestyling and I can freestyle so much better now like I would own myself right now, but anyway I’m a better freestyler. I can freestyle for like five minutes straight, easy. Now I can say stuff that makes sense, that actually has a meaning and that people can get into. I can actually talk about stuff that is going on . When it comes to music I am better in every aspect, my mind is more clever and I feel like, every aspect, swag is different, content is different, everything is different, freestyle is different, everything is different. So, coming out of this experience I worked harder.

The group provided the juice to work hard and do better. This was a very talented and serious sixteen year old. Every session these two showed up, they didn't have to but they did. They were not just rapping; they were dancing, singing, storytelling, trying to make something out of their lives. I would have liked to publish the mixtape, but I honored my promise to them (I never had intentions otherwise) to make the final decision. If they were hungrier it might have been different, but this had

led to bigger opportunities for them. In the end it wasn't about the money.

Lesley University

As I've already mentioned, I conducted what I called research/experimentals at Lesley University in Cambridge, Massachusetts. One of the groups was held in December 2010 and the other three were in February 2011. They were all held Wednesday evenings from 7PM – 8:30PM. The purpose of these groups was to test digital music instruments with a population that have above average experience in expressive arts therapy. I felt like this accomplished the primary goal of testing the equipment, but it also offered me the opportunity to witness future practitioners and experienced ones interact with these devices.

The first night of my research I was already very tired from being in class all day and was worried that I wasn't going to get any participants. I had taken the train to Cambridge that morning with all my equipment to test the portability and it had been draining. The amplifier that I used weighed about thirty five pounds and with all the wires and devices, even with a wheeled bag it was cumbersome. This was the only time I used public transportation and for the remainder of the study relied on an automobile.

My goal was to try and set up as quick as possible in the room that I reserved and get some beats going to try and make a little commotion so people would pop their heads in to see what was going on. I ended up with three participants besides myself who were all master's students in the expressive therapy program at Lesley. For this session we explored live looping technology and did not use the entire time, but one of the participants (in the music therapy concentration) stayed with me as I packed up and I ended up having to get kicked out of the room by the janitor as it got later into the evening. This person was very interested in the potential uses of this technology and asked me a lot of questions. Unfortunately, this was one of the groups that I erased the recording so the long conversation we had about live looping is lost forever. However, I did take notes immediately

following the groups and noted that one of the participants reported that she had really bad menstrual cramps before coming to the group and that now they were gone. Another person said that live looping is the sound on sound equivalent to the exquisite corpse literary device in which a group of people keep adding lines to a poem. I felt like this group was a success. It was a lot of work to bring the equipment on the train, subway, and then lug it around in between classes all day. The physicality of digital hardware can be a restriction, but it is possible to be more minimal, too.

My second research/experiential group was my largest (eight) and included two faculty members. For this group, I set up two smaller stations for people to play with while I set up the Digital Drum Circle Interface. By this time the word had gotten out about my groups and I had received many replies on email and people were coming in and out of the room making for a little chaos. Having to talk to so many people even to just say hi distracted me from setting up quickly. In one corner I quickly set up a small amplifier with a KAOSILATOR and miniKP linked to each other and quickly showed them that if you pressed the touchpad a sound comes out of one and on the other you pressed the touchpad and it changes the sound. They appeared to understand what I said and I was setting up I could hear some very strange sounds being produced, usually followed by very loud laughing. I did the same thing with Loop Station with the same result. People appeared impatient with me as it took longer than usual to get the Digital Drum Circle Interface, but this was the type of information I was trying to gain. Setting up my digital music technology research groups took practice at home and even then if I was distracted by an over eager participant it was easy to forget which wire goes where.

This group did not spend much time discussing the technology following the group, but as I just stated I was fielding quite a few questions before the group even began. Most of the participants in this group were music therapy concentrations and wanted detailed information about Ableton Live and Max/Msp/Jitter, like how much control can you have over the tones. The best answer that I could give them besides the tremendous potential was that this technology can do anything you want as long as

you have the skills to program the software, something that could take years of practice. It is important to note at the time of these groups I had only been using Ableton Live for about a year and Max for only a few months. While I was comfortable to get these software programs to work for my own needs I was nowhere near proficient enough to be considered an expert. Another one of the questions that came up was what would happen if you mixed traditional drums with electric drums. I had never tried this so I couldn't answer, but once again this was the type of information I was looking for. A few months later I was able to do just that and it worked well.

The third research group had five participants with no faculty. Once again the set up took too long. I attempted to use the Novation Launchpad to create a song, but it was too difficult and I gave up. It is important to note that digital interface designed to be used for one person is just that, designed to be used by one person. Even in a small group like that one have one instrument that needed to be shared, or even simply controlled by only the facilitator did not appear to be functional. This previous sentence needs work. Passing around the microphone in a circle and the Digital Drum Circle Interface were the only applications that appeared to work in groups. The KAOSS products and the Launchpad remain better suited for individual play or therapy. In this group, no one had participated in a traditional community drum circle before. I was honored to be the first person to introduce community drumming to these people and for it to be digital community drumming. This was the group that began to consciously incorporate movement in dialogue to the noise. This was also the first time that I was able to facilitate the recording of a composition made entirely of random group generated sounds assigned to Digital Drum Circle Interface controllers. I felt alive.

And I also did not feel like doing another group. These groups were not simple and the logistics of planning of them was a burden. I felt like I had gathered more than enough data to write this thesis. However, I had made a commitment to hold the last groups and there were people who were expressing interest in attending. In preparation I packed the most minimal and lightest set up I could put together.

My small battery-powered amplifier, the Loop Station, and a microphone were all I took. When the time came the person who said they wanted to attend told me he was not feeling well, so instead of going into the room, I sat outside and just chatted. I chickened out and never set up. When another person came I had to tell them it was canceled. I regret this, but creating, advertising, networking, and then facilitating groups had tired me out.

Not otherwise specified.

There are many aspects of the world of digital music technology that I was not able to cover the entire spectrum. This final section of this chapter has become a place for the other parts of the field that might not need an entire section, but are still important. Sometimes, it was a small thing that made



Figure 14. Xbox Kinect.

all the difference, like when I forgot a chord that would render a instrument silent and unusable I don't see how this sentence flows from the previous one.

The idea of using digital technology to change sound was very appealing to me. Ableton Live had an entire library of effects. Korg KAOSS products change the audio stream. Another great effects tool that I played with for this thesis was the pitch modulation software named Autotune. This software was created to change the voice input so that it was in tune. This effect has become widely used in professional music production to much controversy. I downloaded a free trial of this software to see if it might have possibilities in an expressive arts environment. I only tested it on myself, but I thought it was great and wished that I could have afforded to buy a full version. Basically, I sang into the microphone and the software corrected my pitch. For the first time in my life I could hold a tune!

Ableton Live controllers such as the Digital Drum Circle Interface and the Novation Launchpad were crucial ingredients to make this sophisticated software usable to children and adults with no specific experience with these programs, but they were not the only controllers on the market.. Two controllers that I was not able to test that have great potential fit into the category known as human interface devices (HID) or better known as video game controllers. With a little programming the Xbox Kinect and Nintendo Wii controllers can be used to play digital music. The Wii controller revolutionized interactive video gaming several years ago and has been used for music making almost as long. A new product that I believed had even greater potential and had wanted to write an entire section on was the Xbox Kinect. This controller uses an infrared camera to detect three dimensional movement within the range of its digital "eyes." So not only could you control musical parameters, in a way similar to x'y touchpad used by Korg KAOSS products only x'y'z, but with the built in HD video camera you can also capture movement and project it. I thought the Xbox Kinect would be the perfect multi-modal device, but did not have the time to get it to work even though I still feel it should be mentioned. Once again the limits of these products are only limited to the skills of the

programmer/expressive arts therapist. With the combination of Ableton Live and Max a person can literally use anything to make digital music.

Sound.

An important development during this study was the discovery of digital audio interfaces. Most laptops and desktop computers have poor speakers. How does one get quality sound out of their computer? For example, the output for sound on my laptop was a simple eighth of an inch headphone jack. Trying to get a quality sound out of the jack was very frustrating, I would have to use a cord that turned the converted the eighth inch signal into a two prong rca jack plugged into external speakers. That was until I discovered digital audio interfaces. The basic premise was this; most computers have poor built in sound cards. The digital audio interface is an external sound card that has various stereo outputs and inputs. This solves another important problem that I was having. How do I get the sounds into the computer, once again most computers have a single eighth of an inch input. For this study I used the Saphirre USB Focusrite. It worked flawlessly and was a major improvement in sound quality coming in and also coming out.

Another important part of the big picture was the ability to produce quality sound. For this thesis I used two different amplifiers, both made by the Roland Corporation. The Roland MOBILE CUBE was a portable battery powered stereo amplifier that produced a large sound in a small package. The Roland KC35 was a keyboard amplifier that produced a louder sound. Depending on the group situation and how much power I needed informed the decision of what amplifier to use. The KC35 was much heavier and I would recommend the MOBILE CUBE if you were looking for only one product as it was battery powered or AC.

Without a microphone, you wouldn't be able to record non-digital sounds. In other words how did I get sounds into a digital device from outside of the digital device? Microphones were readily available fairly inexpensive and the only thing one would need to know is that microphones are



Figure 15. Focusrite Saffire 6 USB audio interface.

designed for specific purposes and usually do one well. For example, a microphone designed for performance is built tough to handle loud noises and it does this very well. However, if you were trying to record nature sounds in the forest it wouldn't do such a great job. It would be important to research what sound you are trying to record and then buy the correct microphone.

Overall, the phenomenon of digital music technology engaged me as well as the people I introduced it to. Just as hip hop is a tool for empowerment, a tool that grew in parallel to the growth of technology; digital music is a tool for empowerment, a tool for decentering and play, a tool that fits wonderfully within an expressive arts therapy framework.



Figure 16. The two amplifiers I used during this study.

CHAPTER 5

CONCLUSION

*This is my church
 this is where I heal my hurt
 God is a DJ
 It's a natural grace
 Of watching young life shape
 It's in minor keys
 Solutions and remedies
 Enemies becoming friends
 When bitterness ends
 This is my church*

*This is my church
 This is where I heal my hurt
 It's in the world I become
 Content in the hum
 Between voice and drum
 It's in change
 The poetic justice of cause and effect
 Respect, love, compassion
 This is my church
 This is where I heal my hurt
 For tonight
 God is a DJ
 This is my church*

Faithless⁸

The use of digital technology in therapy has not been well documented and what has been documented is basic and sometimes not very helpful. For example, if a therapist wants to include digital work with clients, especially youth, but does not have the skills; where do they go? How does one find the time to learn how to master complex software created for professional artists while at the same time remaining a therapist? At Lesley University there is not a class on the subject and I wonder how many universities offer this type of course? What we have are two different worlds colliding. The digital word created from a binary code of ones and zeros meets the world of therapy - elusive, shifting,

⁸ This quotation is from Faithless (1998), track 1.

lurking in the unconscious and the all the shades of gray. Is there a resistance to this concrete computerized world from within the mysterious world of expressive arts therapy? Will this thesis create a better case for including this type of instruction at the university level? To try and figure out what I learned from this process of exploration I created a list of important points about digital music technology:

- engaging
- fun
- cognitive
- difficult and expensive point of entry
- more switches available
- time consuming preparation
- needs consistent, reliable source of electric current
- delicate interfaces with high replacement costs
- simplifies music making for participants
- contemporary
- futuristic
- loud
- can't make mistakes in preparation
- limited sonic range
- potential for groups, individuals, communities (performance)
- difficult to find training outside of major cities
- not just limited to music
- can supplement traditional media
- portable

Most importantly, this thesis presented several digital music instruments currently available that are accessible enough to the inexperienced practitioner. Even though the instruction on how to use this devices was limited and the creation of psychotherapeutic interventions was not the goal, it did shed more light than was previously available. Secondly, the author of this thesis created an entirely new device that was presented here, for the first time. Could this become a mainstream consumer product? Could digital device assisted therapy be a possibility for the future? Trust can be so hard for therapists to create with their clients, but a client for the most part knows what they will get from a computer

consistently. Could computers replace human counselors? Thirdly, the author of this study brought these devices into situations that tested their mettle, in the end discovering that not only did they work, but they had some real potential. If money was the ultimate goal of this thesis, so far it is a failure. The mixtape was never published. No calls have come in for book deals or academic positions. What happens next no one can say, but it has been a whole lot of fun... and a whole lot of work.

APPEDDIX A

INFORMED CONSENT LESLEY UNIVERSITY

Consent to participate in research study

By signing this document you are agreeing to participate in a research study about how people relate to **electronic music technology and expressive arts therapy**.

As a participant you will be asked to meet for no more than 1.5 hours per session and for a total of no more than four times.

No prior musical skills are necessary.

You can opt out of participating in this research at anytime.

Your identity will never be revealed by the researcher.

Data will be collected through informal interviews, a follow-up questionnaire via email or phone, and each session will be documented with a digital audio recording – please only identify yourself with a first name or change your name if privacy is important.

All questions will be answered as soon as possible and you are free to ask friends and family about your decision to participate in the research and/or to discontinue your participation.

Participation in this study poses no more risk than an average day.

Participation in this study could benefit the participant.

The researcher will present the outcomes of this study for academic purposes (articles, teaching, conference presentations, supervision, etc.)

If any problem in connection to the research arises, you can contact the researcher:

Russell Ouellett
 PO Box 5141
 Portland, ME 04101
 phone: (207) 838-3203
 email: ouellett@lesley.edu

or Lesley University sponsoring faculty Dr. Cameron Marzelli - marzelli@lesley.edu.

My agreement to participate has been given of my own free will and that I understand all of the stated above. In addition, I will receive a copy of this consent form.

 Participant's signature

 Date

 Guardian's signature

 Date

 Researcher's signature

 Date

APPENDIX B

INFORMED CONSENT HIP HOP MIXTAPE

APPENDIX C

FLIER LESLEY UNIVERSITY



*Electronic Music
Technology
and Expressive
Arts Therapy*

APPENDIX D
FLIER HIP HOP MIXTAPE

XMAS BREAK MIXTAPE

PV recording sessions
I AM (I BE) HIP HOP

When:

Mon Dec. 20, 3 - 6PM

Wed Dec. 22, 12 - 3PM

Mon Dec. 27, 12 - 3PM

Tues Dec. 28, 12 - 3PM

Wed Dec. 29, 12 - 3PM

contact: Russell Ouellett
phone: (207) 838 - 3203
email: russ@artorbust.com

an ArtVan sponsored project (2010)

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