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Soundcurrents: Exploring sound's potential to catalyze creative critical consciousness in adolescent music students and undergraduate music education majors

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A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Music

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Abstract

The purpose of this study was to examine how and in what ways a reorientation towards sound could catalyze creative critical consciousness in high school music students and university music undergraduates. Specifically, this study sought to uncover how and in what ways *sonic lifeworlds: everyday sound currents streaming in/out/through participants' lived experiences at school, home, neighborhood, park, playground, street, alleyway, train station, cyberspace* could potentially excite creative aspects of knowing and being via “cultural production” (Gaztambide-Fernández, 2011) and also elicit critical ways of thinking about and responding to the world as “cultural citizens” (Benedict & Schmidt, 2014). This study stems from the premise that “sounds are systems of educational ways of beingknowingdoing” (Gershon, 2018) and is linked to struggles around knowledge, value, control, and power, and thus consequential in learning and teaching spaces.

Scholars in the field of music education have recently rearticulated pedagogical possibilities of sound, citing creative and critical aspects that a thinking in, with and through sound may afford music teachers and their students (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). In this study, I engage with and extend these conversations and drawing from Hartmut Rosa’s theory of *resonanz*, suggest that a reorientation toward sound in music education spaces carries potential to catalyze *creative critical consciousness*. Using sound arts-based research (SABR) methods (Gershon, 2018), sensuous scholarship (Pink, 2009) and post-intentional phenomenology (Vagle, 2018), this qualitative research study highlights some of the ways a reorientation towards sound in music education curricula can open spaces for creativity and critical reflection about issues significant in students’ lived experiences.

Summary for Lay Audience

Can you recall the very first sounds you ever heard? Or sounds that underscored your childhood and adolescence? Or, sounds you encountered earlier this year, this month, this week, this morning a few moments ago? Where were you when these sounds occurred? How did they make you feel? What did they make you think? In what ways have they helped shape your understanding about your self, others and the world around you? And, equally significant: Why might sounds encountered in our daily trek through life matter?

The purpose of this study explored such questions and aimed to understand how and in what ways everyday sounds could be used to create original music and also to generate critical classroom conversations about students lived experiences from the things they were hearing. Participants in this study were high school music students and university music and music education undergraduates. By tuning in, what I have come to call *sonic lifeworlds: everyday sound currents streaming in/out/through/across spaces and places traveled and trekked such as schools, homes, neighborhoods, parks, playgrounds, streets, alleyways, train stations and cyberspaces*, participants composed 25 original soundpieces, connected sounds they were hearing in their real and virtual worlds to significant and current societal issues and realized that sound is often an overlooked and ‘unheard’ aspect in their day to day life.

The study was built upon a premise that sounds provide valuable information and help us in shaping our understanding about our self in relationship to others and the world. By opening their ears to everyday sounds, generally not considered music, participants in this study expanded their conceptions about what music can be, who gets to make music and how music and sound can work together to help them hear and respond to the world.

To Mimi
The loveliest sound I've ever heard

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It really does take a crew to make it through a journey such as this. I am grateful to a number of people and organizations for their support and guidance along the way. My crew is near and far. So I will start where I am now: Canada.

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Ansari elucidated for me how similar our conversations are around curriculum, pedagogical philosophy and practice, and the personal, professional and sociological implications of being a musician and an music educator in the 21st century.

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CHAPTER 1

Introduction

Sound is a primordial phenomenon shaping ways one comes to sense, know and be in the world. Scholars across the fields of archaeoacoustics, sound studies and sensuous scholarship have unearthed and articulated early and modern humans' proclivity for thinking in, with and through sound as a way of creating, critiquing and navigating identity, space, place, time and memory. This "sensory turn" (Howes, 2005) has enabled ethnographic and educational researchers opportunities to attend to sounds (and all of the senses) as they relate to how one perceives, interprets and forms relationships in/with/to the world. Curriculum theorist and critical sound studies scholar Walter Gershon's (2018) assertion that "sounds are systems of educational ways of beingknowingdoing" (pp. 26-27) and are linked to struggles around knowledge, value, control, and power, situates sound as a significant site for educational inquiry and renewal. Scholars in the field of music education have recently rearticulated pedagogical and curricular possibilities of sound, citing the potential value a *sound education* may offer in widening students' conceptions of music, musical identity and musical performance by facilitating creative and critical engagement with their worlds — musical and otherwise (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017).

I engage with and extend these conversations suggesting a reorientation toward sound in music teaching and learning spaces carries potential to catalyze *creative critical consciousness*. Creative critical consciousness is a recognition that the "essence of consciousness is being with the world" (Freire, 2005/1970, p. 169) and carries with it an understanding that *to be* is a generative and dynamic process of becoming and a coming into relation with self and other

through dialogue, reflection and action — three important features driving this study’s concept, design and implementation. Furthermore, this study draws upon German social theorist, philosopher and educator, Hartmut Rosa’s (2020) notion of *resonanz* as it is through such that one’s relationship with/to the world is made dynamic and deeply meaningful.

In this study, I delineate specially designed methods (i.e. classroom activities) and share how a group of Canadian high school music students and university music undergraduates used everyday sounds streaming in/out/through their daily lives to address issues relevant to their lived experiences. By tuning in their “sonic commons” (Odland & Auinger, 2009) and developing a practice of “sonic thinking” (Cox, 2019) and “sonic sensibility” (Voegelin, 2014), participants in this study spoke to some of the affordances and challenges a sound education poses. Because this study was meant to generate curricular content to examine ways a sound education might sound and look like, their voices and creative work are pertinent and featured in the form of audio clips linked via SoundCloud throughout this document.

The lived experiences of participants in this study are particularly significant as their relationship (as well as mine) to the world began to be jolted just a few months prior to commencing this enterprise due to the global pandemic and an amplification in social-political violence and unrest. The senseless egregious murder of George Floyd and subsequent outcries of the Black Lives Matter protests, the Uvalde school shooting, Russia’s invasion of Ukraine, along with months of social distancing and isolation were just some of the anxieties wearing on participants’ (and my) spirits. The creative work and critical discussions collected during this study speak to this. The worldwide dissonance and disruptive chaos was a constant reminder that if ever there was a time when our relationship to self, others and the world needed reevaluation and reorientation — now was it!

As this study is centered in relevant, responsive, sustaining, critical and socially just pedagogies, convoking ways for participants to pause, pivot and reorient their relationship to the world was paramount (Benedict et. al, 2015; Freire, 2005/1970, Greene, 1995; Giroux, 2015). Sound proved to be a productive and significant conduit for this work as it opened participants' ears, minds, hearts and other senses. As institutions across society are tasked with rethinking their purpose, viability and accessibility, music education is in a prime position to address, and possibly redress some of the ways systemic exclusion finds its hold in our field. An attention to sound was shown to be profitable in this regard as well because it allowed a space for participants to pause, pivot and reorient their relationship to music, specifically attending to the ways in which they had come to know and be musical.

Research Aims and Questions

The aim of this study was to examine how and in what ways a reorientation towards sound could catalyze creative critical consciousness in high school music students and university music undergraduates. Specifically, this study sought to uncover how and in what ways everyday sound currents streaming in/out/through participants' lived experiences at school, home, neighborhood, park, playground, street, alleyway, train station, cyberspace could potentially excite their creative aspects of knowing and being via "cultural production" (Gaztambide-Fernández, 2011), while eliciting critical ways of thinking about and responding to the world as "cultural citizens" (Benedict & Schmidt, 2014). It was through participants activating their "discovering drive" (Voegelin, 2014) and through a process of "aesthetic play" (Latta, 2013) via improvisation and composition that aspects of creative critical consciousness were revealed.

This study engages with and extends recent conversations in the field of music education related to sound, specifically, calls for curricular change wherein sound is central and "how it

behaves and how we experience it serves not only as the subject of study, but generates the framework of the pedagogy” (Abramo, 2014, p. 78). Such a framework, it is theorized, may address and ameliorate some of the Eurocentric and exclusive thinking and teaching practices present within the field of music education, particularly in PK-16 environments (Hill, 2018; Recharte, 2019; Thibeault, 2017). With this aim in mind, methods were designed to offer participants multiple overlapping and multisensory ways to reengage, recontextualize and express everyday sounds they encountered through critical reflection and group improvisation and collaborative composition. Thus, everyday sounds became material for musical exploration and creative production, as well as phenomena to be considered, critiqued and connected to participants’ lived and sometimes shared experiences.

In these ways, this study set out to examine how participants interacted with a sound-based pedagogy so that they as musicians and future music teachers might consider augmenting their teaching and learning practice; thus realizing some of the creative and critical aims many music educators today desire and are actively working towards. This study is not a pedagogical model in the plug-and-play sense, but an active, alter / native and fluid curricular experiment offering live and continuous feedback that could be useful when thinking about what it means to deliver a music education that is at once creative and critical via *sonic lifeworlds*.

To these aims, research questions guiding this study were:

1. How do participants describe and discuss their relationship to sounds they encounter?
2. In what ways, if any, do their discussions connect to wider personal-social-political issues?
3. How do participants describe their creative engagement and processes using sounds to improvise and compose?

(a) In what ways, if any, does such engagement and processes influence their perceptions about music, sound and personal creativity?

Participant Selection Rationale

Participants for this study were recruited and selected from two Canadian high schools (grades 9-10) and a Canadian university music department (undergraduates majoring in music performance and/or music education). Partnering with two high school music teachers and engaging school age music students was desired as this could help inform future curricular and classroom practice, and also address what is sometimes “perceive[d] as a disconnect between music education research and the real world of music teaching and learning” (Randles, 2012, p. 11). Because the music teachers were in effect “co-researchers”, we worked in tandem delivering the methods. Their ears, eyes and expertise proved invaluable; especially as we had to maneuver around the many pandemic restrictions present during the study.

Undergraduate music majors were invited and selected because they represented a population that had been trained to think and be musical in ways that mostly lay outside of this study’s primary methods. Their musical acumen, I felt, could be an asset in thinking through and against what a sound-based pedagogy might sound and look like given their experiences as pre-professional musicians and teachers in training at the tertiary level. That all of them would be future music teachers in some capacity or another (e.g. school, studio etc.) also played a significant factor in their being selected as study participants. In calling for a sound approach and the cultivation of sound teachers, Hill (2018) observes,

Given that many music education majors’ undergraduate experiences remain highly Eurocentric, perhaps music teachers’ preparation for the classroom fails to equip them with the tools necessary to be sound teachers. Preservice music teachers need exposure to

and experience with a variety of musics during their undergraduate years, as well as the opportunity to develop skills necessary to coach musical activities other than traditional performance. (pp. 58-59)

The sound-based methods designed for this study sought to provide such an opportunity.

Researcher Position

I come to this research aware of my biases as a composer and music teacher who has worked in multiple settings — PK-12 public/private school, juvenile detention centers, homeless shelters, community music programs, university — and with a steady intention towards group improvisation and collaborative composition. While the goal of my work here (and elsewhere) is not to suggest that everyone should be a “composer” or “musician” for that matter, it has been and continues to be my pedagogical philosophy and practice that music can and should be an accessible, viable vehicle for creative and critical self and group expression for anyone so wishing. Beyond just “the music itself” — or as my undergraduate music history professor called it the “TMI effect” and less colloquially, “*cordon sanitaire*” (Taruskin, 1995, p. 6 Italics original) — is a set of practices derived from particular ways of thinking about music, music identity and music making, and these find their way into policy, curriculum and pedagogical thinking and practice. In other words, any view that music is somehow a “decontaminated space...in a cultural and historical vacuum...in perfect sterility” (Ibid.) is simply untrue nor useful when considering a music education that resonates.

In my time working as a composer-in-residence with PK-12 music teachers in the United States, specifically, I came upon a conundrum around conceptions of music, music identity and music making. Many of the teachers who invited me into their classrooms were excellent musicians and teachers from prestigious music education and music performance programs.

Many could play rings around me. Yet, most of them expressed a hesitation around composing and expressed gratitude and relief a composer came into the classroom to “lead the way”. I did not feel like a leader, however. In fact, I shared with them my own discomfort even being called a composer; as at that point I had not formally studied it at university and did not have a degree in composition. I realized then the power, paradox and perplexities of silos, specifically in music teaching and learning spaces. I also came across some music teachers who felt their responsibilities were sufficient enough with teaching “the notes themselves” and getting their students to play them “right” and that any extra musical material (i.e. critical pedagogy) was something they had neither time nor inclination — thus courting the TMI effect.

I began to think about the notes themselves and wonder what made them right. However, it was not until I was working with fifth-graders in Bayview Hunters Point San Francisco, California on a sound collection composition project in the mid-2000s, that I started to ask, “What really are notes?” I had heard and read about the Italian Futurists and the work of composers like Varèse, Cage and others who conceived of music as “organized sound” (a sentiment echoed by Jonathan, a high school study participant). It was while listening to fifth-graders describing sounds from their everyday life and then playing and performing them into original compositions that I became aware of sound’s potential to not just invite curiosity, imagination and play, but also to attend to the lived experiences of the children in front of me. Sounds they had encountered and were entertaining spoke to issues of poverty, racism, domestic violence, drug addiction and other ills of the Bayview and Excelsior districts from which they lived. These were sounds I too could relate given my upbringing in South Central Los Angeles — sounds I had long suppressed. Their sounds became topics for deep discussion. Thus, what I have come to call in this study, *sonic lifeworlds*, is an accumulation and amalgamation of

thinking and trying out ideas for a creative critical pedagogy of sound. I have come to feel as Radical Imagination social activists, theorists and educators Max Haiven and Alex Khasnabish contend, that “imagination...[and] creativity can never be achieved as an individual possession but is always a collective process, bound up with values of equality, social justice and community” (Haiven, 2014).

While I have speculated that one obstacle perhaps keeping some musicians, teachers and music students from stepping into their creative roles may have to do with ways in which music is generally conceived and carried out in western music schooling, it was not until my experience with participants in this study that I was able to better understand how the impediments they faced were linked to specific ways of knowing and being musical. Unlike R. Murray Schafer (1976), I do not feel “our system of music education is one in which creative music is progressively vilified and choked out of existence” (p. 41). Perhaps this may have been the case a half a century ago. Today, more and more music teachers are tirelessly working to make their teaching practice one that is both creative and responsive to the needs of their students. This study is a small contribution to consider how we might facilitate that process via *sonic lifeworlds: everyday sound currents streaming in/out/through/across spaces and places traveled and trekked such as schools, homes, neighborhoods, parks, playgrounds, streets, alleyways, train stations, or cyberspaces*.

Therefore, what I cannot do is claim complete objectivity, nor should I necessarily feel compelled to do so as the work of education is always subjective, messy and entangled. What I can do, as per the methodological and data analyses protocols framing of this study, however, is share participant experiences as they articulated them in their own voice.

While it is true that I am the one that has conceived, designed and carried out this study, as well as analyzed and reflected in ways to which perhaps I am prone, it is to the voices of participants I turn my ear towards. Readers may also do the same as this study is replete with audio clips of participants expressing their encounters and experiences entertaining their sonic lifeworld. Let us listen to them speak.

Structure of Dissertation | Integrated Article Description and Abstracts

This dissertation is structured around three integrated articles. While each article is meant to stand alone as a piece of scholarship, it intersects with the insights, themes and findings generated during the study. In addition to the three articles is this chapter outlining the context of the study (Chapter 1), followed by the philosophical framings (Chapter 2) and then the methodological framings and methods (Chapter 3). Below are the abstracts for each article.

Article 1 | Sounding MusED — Sonic lifeworlds as a way of knowing and being

Abstract. Sounds are primordial phenomena shaping ways one comes to sense, know and be in the world. Scholars in the field of music education have recently rearticulated pedagogical possibilities of sound, citing creative and critical aspects that a thinking in, with and through sound may afford music teachers and their students (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). In this article, I engage with and extend these conversations suggesting a reorientation toward sound in music education spaces carries potential to catalyze *creative critical consciousness*. I also revisit mid-20th century articulations around sounds' pedagogical potential, highlighting parallels, patterns and paradoxes within pedagogical imagination and consciousness. Drawing from Rosa's (2020) theory of *resonanz* and insights from across the fields of archaeoacoustics, sound

studies and sensuous scholarship, I suggest students' *sonic lifeworlds* are significant entryways for reorienting and recalibrating their relationship in/with/to the world — including ways of thinking and being musical.

Keywords: sound, creativity, critical pedagogy, sensuous scholarship

Article 2 | Exploring the sonic lifeworlds of high school music students

Abstract. This article recounts high school music students' perceptions, reactions, responses and insights related to their experiences listening, collecting, critiquing and creating with sounds from their everyday life. Using sound arts-based research (SABR) methods (Gershon, 2018), sensuous scholarship (Pink, 2009) and post-intentional phenomenology (Vagle, 2018), this qualitative research study highlights some of the ways a reorientation towards sound in music education curricula can open spaces for creativity and critical reflection about issues significant in students' lived experiences. Taking place during global upheaval wrought by COVID-19, the murder of George Floyd, international Black Lives Matter protests, the Uvalde school shooting and Russia's invasion of Ukraine, participants in this study had much wearing on their spirits. Being asked to consciously tune in their "Sonic Commons" (Odland & Auinger, 2009) offered them opportunities to confront some of the dissonances they experienced. Participants also spoke to the personal, social and musical significance of sounds they encounter during their regular engagement with original soundtracks (OSTs) from their favorite video games and movies. Sounds streaming from these virtual worlds opened into lively debates about real world affairs around gun violence, mental health and democratic failings by politicians stoking flames of derision and divisiveness by passing blame and avoiding accountability and responsibility. The use of digital audio technologies (DAT) like digital audio workstation's (DAWs) and MIDI

controllers (e.g. Ableton Push and Novation) played a predominant role in participants' creative practice at home, suggesting greater attention be paid in music education to audio production concepts and techniques, as well as more curricular recognition that the digital music studio is a creative critical tool for music engagement. Participants in this study highlighted some of the personal and well-being benefits they experienced listening, walking, collecting, cataloging and creating using sounds from their everyday life, as well as some of the challenges doing so during a stressful year of schooling in a pandemic. This article articulates and delineates specially designed sound methods used in this study that may serve as a working model for educators wishing to invite creative critical inquiry into their teaching and learning spaces. In line with SABR methods and to ensure participant voices are heard, some of the vignettes shared in this article feature audibly accessible links so that readers may listen to participants share their *sonic lifeworld* encounters and experiences.

Keywords: sound, creativity, critical pedagogy, digital audio technology and production, video game violence

Article 3 | Exploring the sonic lifeworlds of university music majors

Abstract. This article recounts six undergraduate university music majors' perceptions, reactions, responses and insights related to their experiences listening, collecting, critiquing and creating with sounds from their everyday life. Using sound arts-based research (SABR) methods (Gershon, 2018), sensuous scholarship (Pink, 2009) and post-intentional phenomenology (Vagle, 2018), this qualitative research study highlights some of the affordances and challenges a "sound education" (Recharte, 2019) can offer in university music and music teacher education programs. Participants in this study spoke to some of the tensions they faced navigating and negotiating

between their accustomed and trained ways of thinking about and being musical and alternative avenues of musical engagement, specifically “sonic thinking” (Cox, 2019) and “sonic sensibility” (Voegelin, 2014). Within such tensions new understandings around creativity, musical identity and music making and performing were discovered. Participants also shared how their relationship to the places and spaces they regularly traversed shifted as a result of consciously attending to sounds they encountered. In these new relationships participants sometimes became unsettled as they came face to face with personal, social, economic and political dissonances reverberating across the “sonic commons” (Odland & Auinger, 2009). In this unsettling, participants’ critical consciousness was catalyzed. This article articulates and delineates specially designed sound methods used in this study that may serve as a working model for educators wishing to invite creative critical inquiry into their teaching and learning spaces. In line with SABR methods and to ensure participant voices are heard, some of the vignettes shared in this article feature audibly accessible links so that readers may listen to participants share their *sonic lifeworld* encounters and experiences.

Keywords: sound, creativity, critical pedagogy, music identity, embodied ways of knowing, music teacher training

Sound access and concluding thoughts

Because sound is significant in this study, I have curated selections for readers who wish to listen in on participants’ reflections, conversations and original compositions. There are a total of 25 Sound Pieces (SPs) ranging from thirty seconds to eight and a half minutes that were created across both participant groups. In addition, I have spliced together audio clips specifically relating to some of the themes, findings and arguments presented. Links are provided

for those as well as they appear throughout the articles. In these ways, it is my hope that readers can listen, compare, contrast and draw their own conclusions about what they are hearing and reading. Sound is elusive and ephemeral and ultimately subjective such that the things I have heard and the ways I have played and replayed them in my mind, will necessarily not be the same for new ears. Each sound journey is unique carrying its own sense of possible meanings to be made.

As this study is meant to generate curricular ideas for sound's potential in music education, it is my hope that conversations are also built between and among listeners/readers and myself so that multiple meanings may be discovered via the sonic lifeworlds shared here.

The following chapter articulates and delineates the primary literature guiding this study's philosophical framing.

CHAPTER 2

Introduction to Philosophical Framings

In this chapter, I review the primary literature informing this study's concept and design. Taking to heart Matthew Thibeault's (2017) suggestion that music educators should "cast a wider net...to develop alternative epistemologies and pedagogic action around more generous conceptions of music" (p. 73), I draw upon research across the fields of archaeoacoustics, sound studies and sensuous scholarship to situate sound in pedagogical and curricular thinking and practice. A key aspect of this study comes from curriculum theorist and critical sound studies scholar Walter Gershon's (2018) assertion that "sounds are systems of educational ways of beingknowingdoing" (pp. 26-27) and are linked to struggles around knowledge, value, control, and power, and thus consequential in learning and teaching spaces (Akiyama, 2010; Black & Bohlman, 2017; Gershon & Appelbaum, 2020; Kheshti, 2015; Wargo, 2018; Wozolek, 2023, 2018). Recent literature in the field of music education has also asserted sound's significance and pedagogical potential (Abramo, 2014, 2015; Hill, 2018; Recharte, 2019). Joseph Abramo's (2014) call for "music education that resonates" offered three questions that have helped guide this study's concepts, design and implementation:

What would it mean for educators to privilege sound? What would a musical education that resonates with rather than shows require of students and teachers? Are there qualities of sound and the experience of listening that educators can extrapolate to inform the philosophy and practice of music education? (p. 79)

Such a framework, it is theorized, may address and ameliorate some of the Eurocentric and exclusive thinking and teaching practices present within the field of music education, particularly in school music and university music teacher training programs (Hill, 2018; Recharte, 2019).

This study's concepts, methodology, methods and key themes and findings suggest that a music education that resonates involves pivoting and reorienting towards sound as a way of knowing and being via *sonic thinking* (Cox, 2019). Methods designed for this study, specifically the curricular activities participants experienced, were influenced by sound artist, activist and philosopher Salomé Voegelin's notion of "sonic sensibility" (2014) and "discovering drive" (2010), and Deweyian educator/scholar Margaret Latta's (2013) concept "aesthetic play." The overall framing fastening these theories together comes from German social theorist, philosopher and educator Hartmut Rosa's (2020) concept of *resonanz*.

Towards "Axes of Resonance" in Music Education via Sound

Current climate in the field of education at large, and music education specifically, is one that requires a reorienting and recalibrating of what has been deemed fundamental. The ways in which we think and the things that we do must be regularly reexamined and reconceptualized if we are to expand relevancy and address the complexities of a society on the verge. Many students coming into our music classrooms and university music programs are well aware that the world as it is currently constructed — socially, politically, environmentally and educationally — is unsound, unstable and unsustainable. Finding ways and means to invite creative critical reflection and expression en route to personal and systemic change has been at the forefront of socially conscious educators, and is the driving force informing relevant, responsive, sustaining and critical pedagogies (Ladson-Billings, 1995; Gay, 2000/2018; Paris, 2012; Abrahams, 2005). Music education scholars have voiced concerns that ordinary ways of thinking and being musical do not necessarily serve the kinds of equitable, diverse, inclusive and socially just pedagogies

needed to address and “take account” of systemic ills and “traumas” permeating present society (Wright, 2016/2010, p. 276; Bradley & Hess, 2021; See also Benedict et. al, 2015; Salvador & Kelly-McHale, 2017). At the heart of this work is a desire to engender the kinds of educative spaces wherein teachers and students come to “see and hear the world with critical eyes and ears (and all of the senses)” (Woodford, 2012, p. 98) as they work to “break through the crust of conventionalized and routine consciousness” (Woodford, 2018, p. 24 quoting Dewey, 1946, p. 183). Thus, the task before music educators is to open curricular space for the raising and transforming of consciousness.

The aim of this study was to catalyze creative critical consciousness. For the purposes for this study, creative critical consciousness is framed through two lenses. First, that of Brazilian educator and philosopher Paulo Freire (2005/1970) and his notion of *conscientização* which “refers to learning to perceive social, political and economic contradictions, and to take action against the oppressive elements of reality” (p. 35fn). Second, that of composer, improviser and music educator Pauline Oliveros (2005) who states, “Consciousness is awareness of stimuli and reactions in the moment. Consciousness is acting with awareness, presence and memory. What is learned is retained and retrievable...can be brought forward from the past to the present [and signifies] self-recognition” (p.xxi). Creative critical consciousness is a recognition that the “essence of consciousness is being with the world” (Freire 2005/1970, p. 69). Being with the world is a phenomenological encounter and a method for moving through timespace interacting and enacting one’s “freedom to create and construct, to wonder and to venture” (Ibid., p. 68). However, it is not a solo trek, as creative critical consciousness also carries an understanding that to *be* is a generative process of becoming that can excite and engage “dialogue, reflection, and

action” in/with the world — three core cyclical tenets of Freireian Critical Pedagogy — en route to transforming consciousness and effecting social change (Ibid, 100-104).

Raising and transforming consciousness involves what German social theorist, philosopher and educator, Hartmut Rosa (2020) calls *resonanz*. As part of his larger critique on modernity’s “hi-speed” madness towards bigger, better more Rosa argues that current society is entangled in a web of “dynamic stabilization” exhibiting patterns of growth, escalation, acceleration and increased innovation which has led to overconsumption, competition, unsustainable notions of success or a “good life” and eventual alienation, wherein self in relation to the world is experienced as a means to an end. Unfortunately, an end is never truly attainable as society frantically moves at breakneck speed to get somewhere nowhere as fast as possible just to keep up and keep hold on to a semblance of stability. For Rosa (2017), dynamic stabilization is when a society or institution “*systematically requires growth, innovation and acceleration for its structural reproduction and in order to maintain its socio-economic and institutional status quo*” (p. 3 Italics original). One problem with this mode of being is that it stifles how one can come to imagine, know and relate to the world as “there looms the shadow of a world turned shallow and silent, mute and deaf through our very attempt to control and commodify it” (Ibid., pp. 8-9).

While on the surface, the field of music and music education may not seem as dire as Rosa describes, there are in fact policies, procedures and curricular practices in place that point to some of the ways dynamic stabilization and alienation manifests in music classrooms and programs — both at the secondary and tertiary levels. Some undergraduate music majors in this study, for instance, spoke to their feelings around creativity, musical identity and ways of being musical as highly rigid, offering little autonomy and pursuing an ideal of excellence that triggers

anxiety, doubt, depression and other emotional, mental and physical stressors. Scholars across the fields of music education and music psychology have spoken to some of the “widespread” trends of “burnout” (Bernhard, 2007; Orzel, 2010; Wristen, 2013) and “anxiety” noticed particularly in “classical music university students” within North America and internationally (Demirbatir, 2012; Huang & Yu, 2022; Sokoli, Hildebrandt & Gomez, 2022; Sternbach, 2008). Burnout, according to Vandenberghe and Huberman (1999) is a “crisis of overworked and disillusioned” and while their study applied to in-service teachers, it is of significance to this study’s participants, particularly the pre-service music education majors. They contend that persons exhibiting burnout “run the risk of experiencing more emotional exhaustion and a sense of alienation from their work lives” (p. 1). Alienation from one’s school life is just as significant and plays a role in constructing conceptions around ways of knowing and being musical.

What counts as music in curricula circles and who gets identified (i.e. labeled) as musically gifted, innately talented or genius are other factors contributing to music students’ feelings of alienation around their perceptions of their creativity and musical identity (Isbell, 2008; Randles & Smith, 2012; Roberts, 1991; Schmidt & Edwards, in press; Woodford, 2002). High-stakes audition processes, rising costs of tuition for conservatory training, hyper “competitiveness and perfectionism” and “limited number of professional positions” post graduation also point to dynamic stabilization and alienation (Wristen, 2013, p. 21; See also Jabush & Altenmüller, 2004; Dews & Williams, 1989; Hunt & Eisenberg, 2010). Some participants across both groups (high school music students and university music majors) commented on the therapeutic benefits they experienced while engaged in this study’s methods, as it elevated their awareness and feeling of being “grateful” to be sensually and sonically in touch with their surroundings. Articles 2 and 3 delineate their insights. Discussions among high

school music students in this study show early stages of idealized perceptions and conceptions of what constitutes “real” music and music identity (See Article 2).

In addition, because music falls into what is now commonly coined “creative industries” with musicians, artists and influencers ubiquitously labeled “creatives” (Hartley, 2005), creativity and its associated terms “imagination” and “innovation” become subject to covert corporate marketing and branding schemes, specifically aimed at youth culture (Frank, 1997; Kalin, 2016; See also PBS Frontline, *Merchants of Cool* <https://www.pbs.org/wgbh/pages/frontline/shows/cool/view/>). This has left concepts like creativity, imagination and innovation — concepts and practices that have often driven many socially conscious projects — exposed to cooptation and commodification. Radical Imagination theorist and educator Max Haiven (2014) argues that the “enclosure” wrought by “creative capitalism” has effectively placed creativity and imagination in a state of “crisis” (See Chapter 6, *The Enclosure of Creativity*). Because creativity and imagination are often the liminal space where consciousness and social transformation begins, their corporate privatization should be of concern to music educators working towards *conscientização*. Indeed, as Benedict & Schmidt (2014) contend, music educators must attend to the ways creativity and innovation play out in curricular development as our relationship with them can be “quite problematic, often drowning criticality, consciousness, and responsibility” (p. 80).

Therefore, because this study is centered in creative and critical aspects of being and the catalyzing of consciousness, addressing some of these issues is pertinent. As a counter to dynamic stabilization and alienation, Rosa’s notion of resonance plays a critical role. Rosa (2020) contends that *axes of resonance* manifests when one’s relationship to the world is such that they feel connected and “touched” in ways that their abilities to respond (i.e. response-

ability) are amplified, substantively, not superficially. He situates schools as resonant spaces wherein young people “begin to grapple with the ‘stuff of the world’ by reflecting on it, actively distancing [themselves] from it, and adaptively transforming it...[en route] to formulat[ing] and articulat[ing] [their] moral roadmap” (p. 238), and argues that educational processes “require *encounter*, genuine sympathy and concern, and the ability to both touch and be touched (p. 11 *Italics original*). For Rosa (2020)

Education in the sense of resonance theory...is aimed not at cultivating either the world or the self, but rather at *cultivating relationships to the world*. The goal is not refinement of the individualistic or atomistic self nor disengaged mastery of the world, but rather opening up and establishing axes of resonance. (p. 241 *Italics original*)

In this scenario, educational spaces become resonant spaces, and that, Rosa argues is when the classroom “crackles [and] axes of resonance begin to vibrate” (p. 243). In order for this to happen, however, a pivoting and reorienting of ones relationship to/with the world must be considered. The world — people, places, spaces and material — must be seen not as resources to be accumulated, measured, extracted and exploited, but rather felt and sensed as dynamic encounters wherein “the ability to both touch and be touched” is exercised (Rosa, 2020, p. 11).

One way to orient our relationship to the world is through sound. Rosa (2020) says, “The universe of sound consists in its ability to express or generate all manner of different and differently nuanced relationships: strife, loneliness, desolation, resentment, alienation, and tension, as well as yearning, refuge, security, love, responsivity” (p. 94). Sound then becomes an entryway into educational resonance.

Sound As a Way of Listening, Knowing and Being: Towards Sonic Thinking

Scholars in the field of music education have also recently suggested turning an ear to the universe of sound citing its pedagogical potential to invite creative and critical classroom engagement (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). Abramo's (2014) questions articulated above in his piece, *Music Education that Resonates — An Epistemology and Pedagogy of Sound* offers a way of thinking about sound's potential in music education, specifically in moving beyond fundamental conceptions and teaching practices. Expanding upon his query over the "qualities of sound and the experience of listening" (p. 79), Abramo asks, "How might educators create spaces where students listen for fluid sense instead of hear fixed meanings" (p. 87)? Abramo's insight here is echoed by Iranian born anthropologist, feminist, queer and critical race theorist, Roshanak Kheshti's (2015) assertion that, "Sound's form is a hermeneutical tool; a wavy and reverberant materiality, it reflects, is productive of, and also engenders through resonance" (p. 111). Thus, one quality of sound and the experience of listening is found in its elusive, ephemeral and generative nature — something sound artist philosopher Salomé Voegelin (2010) calls "fleeting understandings" (pp. 4-5). A significant aim in this study's design was to create spaces where flux, fluidity, and, "fleeting understandings" could be experienced, expressed, entertained, interpreted and reinterpreted. The generative nature of the methods created for this study were crucial when considering catalyzing creative critical consciousness as it is in dynamic dialogical encounters wherein transformation of consciousness is possible (Schmidt, 2012, 2008, 2005).

Continuing Abramo's line of reasoning, Matthew Thibeault (2017) encouraged music educators to utilize the interdisciplinary field of sound studies as a way to "develop alternative epistemologies and pedagogic action around more generous conceptions of music" (p. 73).

Sound studies situates all sonic material as a means through which to glean insights into how personal, social, cultural, political, environmental and other issues currently facing the world are understood, experienced and expressed via sonic encounters. As there has been an audible surge in music education's response to wider social issues, there has also been a rekindled interest in sound as a way of sensing, knowing, and being. Ways of knowing and being musical has been a topic of ongoing discussions and debates in music education scholarship and has led to multiple overlapping and sometimes conflicting viewpoints about listening, performing and creating (Elliott, 1995; Reimer, 1989).

Turning attention to the ways listening, performing and creating to/in/with music *and* sound are approached outside the field of music education, Thibeault suggests “sound studies may yet prove helpful in resolving some of the primary challenges in our field, particularly the call to broaden existing conceptions of music education” (Ibid, p. 80). The “call” to which Thibeault is referring has to do with, not only with pivoting, reorienting and reconceptualizing fundamentals of music, but also reassessing the currency and value music educators can bring into their classroom practice when addressing, what Frances Dyson (2014) calls, “the tone of our times” wherein sound, tone, music, voice and noise signal and signify current global economic and ecological crisis. Percussionist/conductor/music educator, Steven Schick in his keynote address for the New Music Gathering in 2017 calls for music educators and their students to tune in and “hear the nearly and audible sounds of our culture” (21’10 <https://www.youtube.com/watch?v=6pM9v3BgVNM>) — sounds that may be out-of-sync with democratic and egalitarian ideals, sounds that spread divisiveness, derision and hate as well as sounds that spring forth joy, love, respect and reverence for human and non-human life.

When considering a music education that resonates as Rosa delineates, it is imperative to facilitate opportunities for music students to listen and be touched such that they may respond to the world. When Thibeault (2017) suggested “educators who wish to hear the world anew while helping others to grow meaningfully with music” (p. 69) should consider scholarship within sound studies, he was in part, encouraging music educators to hear and listen sonically, not just musically. Fundamentally, music educators have been trained to listen and hear in particular and prized ways producing and reinforcing, what sound art theorist, Christoph Cox (2018) calls, “unthinking familiarity” (p. 137). To hear anew and to design and facilitate pedagogical spaces that invite an other than ordinary relationship to music requires thinking in, with and through sound, or as Cox (2017) refers to as *sonic thinking* — a central feature of this dissertation’s research questions, concept, design, methods. Cox’s (2018) asserts

Our ordinary relationship to music is one of unthinking familiarity — the apprehension and production of perceptual and affective cliches, ready-made forms, conventions, and cultural associations that prevent us from hearing anything else. In short, for the most part, music operates for us according to the model of recognition and does not provoke us to think or ask ‘what is this sound?’ and ‘what are its conditions of existence?’ (p. 137)

Cox (2017) further articulates, “[Sonic thinking] begins, not from *music* as a set of cultural objects but from the deeper experience of *sound* as flux, event, and effect...[and] present us with an *ontology* that unsettles our ordinary conception of things” (p. 100 Italics original). Thus, sonic thinking is the start for moving towards a music education that resonates as this mode of thinking may help in pivoting, reorienting and reassessing normative musical traditions and curricula that sometimes discounts, polices and attempts to erase Others’ musical and sonic experiences (Gallagher, 2011; González Ben, 2022).

Accompanying Thibeault's line of thought, Stuart Chapman Hill (2018) called for a "sound approach" to music education. Using a Cageian lens to situate musical ways of listening, knowing and being, Hill suggests music educators reimagine their roles as "teachers of sound or sound teachers" (p. 46) and invite their students' "sonic curiosity" (p. 51) in the world around them. Citing R. Murray Schafer's notion of "ear cleaning", Hill says sound teachers have a responsibility to help "students listen more attentively to the ambient sounds of their worlds...[and] deepen and diversify their meaningful relationships with sound" (p. 60). He situates this as a "spiritual" aim as a way to "affirm...[and] wake up to the very life we're living" (p. 59, 60). For Hill, this line of reasoning serves a two-fold purpose.

First, it opens teachers and students ears to ways of listening that can help, as Abramo (2014) articulated, "lookout for new possibilities from all sources...[and] have a curiosity and openness to being distracted by new meanings or senses" (p. 89). For Hill, this translates into teachers not being bound by particular "genres or styles" of music, perhaps even "dismissing" them because they do not fit into a preconceived aesthetic or pattern to which their ear and mind are accustomed (p. 51). Indeed, Hill suggests an "an ecumenical embrace of all sounds, including the sounds of unfamiliar musical styles and genres...extinguishes the possibility of reflexively imposing our preconceived notions of what does and does not qualify as music" (Ibid.) — bringing to the fore some of the conversations participants in this study had about what constitutes "real" or "authentic" music and music making. Just as significant, being distracted by new meanings or senses may also lead to what Schmidt (2012) calls "mis-listening" — an essential ingredient for creating the kinds of resonant spaces necessary to catalyze creative critical consciousness. This kind of listening according to Schmidt (2012)

is defined not as the inability to recognize commonly agreed-upon sonic ideals but rather

the capacity to intentionally hear ‘wrong.’...That is, to understand that any interpretation, any practice, any text, any musical interaction produces a surplus and ramifications of meaning and sound...upon which one can and should enter, contribute, and extend. (pp. 3, 13-14)

In the context of this study’s aims to catalyze creative critical consciousness, mis-listening allowed participants opportunities to perceive, rehearse, remix and replay frictions they encountered sounding within society and “invite[d] alternative, disruptive, and innovative replies” (Ibid. p. 13) because it engendered and reinforced dynamic and dialogical engagement with the sounding world. The feelings of discomfort expressed by some university music undergraduates during the tri-locale Sound Walk (SW) as they faced their own socio-economic privilege, as well as their critique on the frenetic consumer-driven “noise” (i.e. adverts/pop-ups) reverberating across and disrupting their online experiences point to moments of resonance prompted by mis-listening. High school music students in this study also engaged in aspects of mis-listening as they vigorously debated whether or not the excess of gun violence sounding in their virtual worlds via video games or lack of mental health resources and unreasonable gun policies influenced school shooters like 18-year-old Salvador Ramos in Uvalde, Texas USA (See Article 2).

The second purpose for a sound approach to music education according to Hill (2018) is that it “frees us from the narrow concepts that have defined school music and music teaching, opening us to new ways of thinking about our roles in classrooms and goals for students’ learning music” (p. 50). Concepts that have defined school music and music teaching typically center around particular ways of knowing and being musical. Such an approach has been shown, at least in the United States, to lack resonance with the majority of students attending public

schools, thus making music inaccessible and exclusionary (Abril & Gault, 2008; Elpus & Abril, 2011). Participants in this study spoke to how some of the ways they have been taught to conceptualize music and music making does not always resonate with their learning styles, musical preferences, or musical engagement outside of school or university. Even a participant who received an undergraduate degree in composition expressed concern and sometimes a cynical discontent with the ways western music theory and “correct” ways of composing was positioned (See Article 3). In considering our roles as music teachers and goals for our students it is imperative to pivot and reorient our relationship to music and ways of being musical such that we continue creating curricula that resonates. This means expanding views around listening, knowing and being musical in ways that invite multiple and diverse perspectives.

Sound As a Way of Critiquing and Creating: “De-Centering Music” and “Cultural Production”

Following Hill’s “sound approach,” Matias Recharte (2019) called for a “sound education” wherein music itself is “de-centered.” He contends that “when we invoke the concept of *Music* we do so through a system of knowledge, an episteme, which is from its inception Eurocentric, racist, and patriarchal” (p. 73 Italics original). Conceptions around sound, noise, silence and music then become Idealized, realized and consecrated through a system of aesthetic conceit, devaluation of other music and systemic oppression. Recharte challenges the hegemonic role western classical music plays in music education by asking, “What is it that makes music *not-just-sound* and what makes sound *not-quite-music*” (p. 77)? Thus, extending Abramo and Hill’s perspectives and arguments, Recharte deepens the conversation around sound’s potential to catalyze creative critical consciousness. By de-centering music, Recharte is first, exposing the exclusive and Eurocentric ways school music conceptualized, organized, created and performed

(i.e. western canonical tonal works, notation, stark distinctions and delineations between musical identities and roles). He is also suggesting music educators and their students reorient their ears to sounds of life surrounding them in their everyday environments. In this reorientation sounds become material through which to critique and create.

Drawing upon Gaztambide-Fernández (2007) notion of “cultural production,” Recharte (2019) says “All sounding phenomena are fair game” and should be “attended to, analyzed, discussed, re-produced, re-purposed, or re-combined” (p. 82). The significance of cultural production in redressing some of the systemic issues within music education curriculum cannot be understated. As Gaztambide-Fernández (2007) asserts

It is cultural production — the active engagement in reorganizing the symbolic content our social being — that oppressive boundaries can be challenged in the search for social justice. This *in between* process requires the *inner* engagement with direct experience and the production of new *outer* representations. (p. 36 Italics original)

Thus, as Gaztambide-Fernández (2011) further argues

By putting students own musical creations at the center of the process this production approach rejects the premise that music education should be about reproducing the work written by other (usually dead, white, and male) composers whose work is deemed legitimate music. (p. 35)

In moving towards a sound-based music education that resonates cultural production can play a significant role as this study’s methods, themes and findings elucidated. Participants’ creative output and artistic expressions were legitimized as they drew from their every day sonic encounters critiquing, analyzing and remixing sounds they collected. In a sound-based music education that resonates authorship becomes an important factor because it facilitates a frame of

mind that suggests to students that their voice, their words and their lived experiences are invited and valued. In other words, cultural production sets the stage for “the ability to both touch and be touched” to manifest (Rosa, 2020, p. 11).

Abramo, Thibeault, Hill and Recharte represent a renewed interest in sound as a way of sensing, knowing and being in the world (see Article 1 for a historical overview of sound in music education). Building upon each other’s expertise, combined their work makes a clear philosophical case for a sound pedagogy, especially one that resonates and speaks to our field’s current curricular aims. Within music education spaces, however, a sound pedagogy intones a slightly different ring compared to the kinds of pedagogical practices typically adhered to and delivered in music classrooms and programs. As mentioned above, participants in this study came head to head with some of the curricula collisions between their ordinary ways of thinking and being musical and sonic thinking. As I stated earlier, a music education that resonates via sound must start from pivoting and reorienting our relationship to music. This begins with sonic thinking. There are other and equally significant aspects of a sound pedagogy that were developed and used in this study. It is through *sonic sensibility*, *discovering drive* and *aesthetic play* that this study’s methods and curricular activities were designed and delivered.

Tuning in the Sonic Commons via Sonic Sensibility, Discovering Drive and Aesthetic Play

Sonic sensibility. Sound is fundamentally a “public encounter” experienced through aural sensation and perception (O’Callaghan, 2017; O’Callaghan, 2007). Thinking in, with, to and through sound requires developing aural skills typically unfamiliar in music education curricula as participants in this study discovered and discussed. Skills around listening in music education spaces are generally couched in terminologies and contexts related to the development

of one's "musical ear" that is, the listening and identification of intervallic relationships, chord/harmonic progressions, timbral effect, rhythmic figurations and so on. Listening is arguably the cornerstone of musical acumen and has been conversed about in varying forms: active listening (Bamberger, 1991, Muriel, 1943, Reimer, 1989), creative listening (Dunn, 1997, Peterson, 2006), intuitive listening (Dunn, 2006), imaginative and cognitive listening (Serafine, 1998), cognitive and ecological listening (Clarke, 2005) and multisensory, embodied and affective listening (Kerchner, 2014).

Critiquing ways music education has attended to listening, Rebecca Rinsema (2017) highlights "music listening's controversial place in the area of music education" (p. 4) and offers creative and critical ways to move beyond structuralist views of listening (i.e. passive/ active, aesthetic/praxial) by positioning listening as a an "interpretive process" (p. 6). Rinsema's theoretical and empirical work documenting the music listening experiences of college students, substantiates her argument that listening is a

creative activity...a 'hermeneutic exploration'...[that] encourages students to examine the sounds, the lyrical contents, and their contexts (geographical, historical, visual, intertextual, cultural, and so on)...in order to construct possible meanings...[thus] emphasiz[ing] the multisensory, multimodal aspects of music. (p.6)

Revisiting and revising Peter Webster's (2002) definition of musical creativity, Rinsema (2017) addresses, what she sees as conceptual, perceptual and temporal limitations of "thinking in sound" solely through a preset structural paradigm — "Western classical music tradition" (p. 128) — and as a means to an end (i.e. musical product). Equally significant to thinking in sound is actively listening in sound, or what she calls, "in action musical engagements like everyday music listening or improvisation" (Ibid.). Similar to Hill, Rinsema expands notions of listening

and creativity to include students' perceptions and reflections about their experiences of music and being musical.

Part of students' experiences, or lifeworlds has to do with the sonics at play in their everyday treks from home, school, neighborhood, cyberspace, etc. Surprisingly, participants across both groups (high school and university music majors) unanimously said they had never been asked in music courses to listen to their environments as they did in this study. They also expressed that they had never considered what it meant to think in, with, to and through sound on its own terms outside of music. This was especially evident with music and music education majors who spoke about the challenges they had collaborating using sounds as they had no "common language" with which to "characterize" everyday sound encounters (see Article 3).

Sonic thinking necessitates a kind of listening that is active and curious. While "mis-listening," as articulated above opens a space for difference to be entertained, such difference can only be had if/when one is conscious of everyday sonics at play in the spaces they traverse. Sound artist philosopher, Salomé Voegelin (2014) calls this kind of listening, "sonic sensibility" and she describes it as a dynamic listening beyond the

effort of hearing. Listening, as a sensibility, as a susceptibility toward the world and the things...is not only a physiological act but an aesthetic and perceptual attitude that influences how we understand the world, its reality, knowledge, and truth... [and] reinvigorates ideas about reality, actuality, possibility, and truth...exploring...sonic timespace places, as sonic environments, which we inhabit as phenomenological subjects, *listening intersubjectively and reciprocally: generating ourselves and the world we hear through our being in the world.* (pp. 2-3 & 178 fn7 Italics added)

Since sound is a public encounter, sharpening skills of sonic sensibility opens a space for critical listening to, in, with and through sound in the public sphere. Composers, sound artists and sonic thinkers, Bruce Odland and Sam Auinger (2009) refer to such spaces as, “Sonic Commons... any space where many people share an acoustic environment and can hear the results of each others activities, both intentional and unintentional...The sonic commons is full of asymmetry” (pp. 64-65). Tuning in the Sonic Commons via sonic sensibility repositions “listening as a socio-political practice of sound” (<https://www.listeningacrossdisciplines.net/archives/2016/people/salome-voegelin/>).

Extending Voegelin’s sonic sensibility, UC Berkeley-based art historian Tausif Noor’s (2019) piece, “Hear Away Closer: Notes on Sonic Sensibility” draws on seminal sound studies author Brandon LaBelle’s *Sonic Agency: Sound and Emergent Forms of Resistance* (2020), situating sonic sensibility as a conscious and deliberate attentiveness to sound as it “oscillat[es] and vibrat[es] over and through all types of bodies and things, producing complex ecologies of matter and energy, subjects and objects” (<https://cueartfoundation.org/young-art-critics-essays/hear-away-closer-notes-on-sonic-sensibility-by-tausif-noor>). It is through these complex ecologies, or as Voegelin states above, “sonic timespace places” that one may begin to consider and engage in what LaBelle (2020) calls, “the entanglement of worldly contact” (p. 7). In this entanglement moments of resonance can occur as responsivity to the world and the things “extends from the depths of bodies and into the energetics of social formations and their politics” (Ibid, p. 8), thus amplifying Iranian born anthropologist, feminist, queer and critical race theorist, Roshanak Kheshti’s (2015) assertion that sound signifies a “social formation...constituted by struggle and struggled over” (p. xx). Sonic sensibility elided with this study’s aims and research questions around resonating educative spaces for catalyzing creative critical consciousness. The

specially designed methods, or curricular activities participants in this study interacted with were meant to invite susceptibility, promote intersubjectivity, and engender generative aspects of thinking and being in/with the world and the things.

Akin and complementary to Voegelin's sonic sensibility is what composer, improviser and music educator Pauline Oliveros (2005) calls "deep listening." For Oliveros, "*Deep* has to do with the complexity and boundaries, or edges beyond ordinary or habitual understandings...[and] *Listening*...is learning to expand the perception of sounds to include the whole space/time continuum of sound" (p. xxiii Italics original). Deep listening, as it was used in this study, opened spaces for participants to move beyond their "ordinary conceptions of music" as articulated by Cox above, and hear everyday sounds for their sensory aspects including temporal-spatial relationship, memory recollection and contextual significance. In this way, they could begin to connect their relationship via sounds across space, place, time, memory and other bodily sensations such as touch, taste, scent and sight — key aspects of "sensuous scholarship" (Pink, 2009; See also Howes, 2005; LeBreton, 2017/2006). Then, using their knowledge of music, they attended to the musical aspects of sounds collected. In this way they began with sonic thinking, moved through sensual aspects including personal-social-political "triggers" and then on into musical aspects — pitch, timbre, rhythmic pulse, orchestrative potential, etc. (Appendix K).

Thus, through a practice of sonic sensibility coupled with deep listening, one's consciousnesses can be catalyzed such that they may begin to discern signals, vibrations, frequencies, noises, silences and other forces at play in their everyday sounding environments. They may then be touched in ways that facilitate a response; intoning alternative rhythms of thinking and being as they make sense of the sometimes unsound asymmetrical things they hear — sounds out-of-sync with egalitarian and democratic ideals, sound bytes of hate, derision and

divisiveness, for example. Part of intoning alternative rhythms of thinking and being, for the purposes of this study, involved participants excavating sonic material they had encountered and experienced in the Sonic Commons, and then entertaining that material through a creative critical process.

Discovering drive. Extending sonic sensibility, Voegelin's (2014) "discovering drive" opens a way to take sonic material gathered from one's listening into new realms of meaning.

The discovering drive, for Voegelin is

A drive to knowing as past participle, always now, unfolding in the present, bringing with it the uncertainty of a fleeting understanding. Such as listening does not pursue the question of meaning, as a collective, total comprehension, but that of interpretation in the sense of a phantasmagoric, individual and contingent practice...*Listening allows fantasy to reassemble the [audible] fixtures and fittings, and repositions us as designers of our environment.* (pp. 4-5, Italics added)

Fixation, whether it be on said fundamentals of music or so-called "common sense" ways of knowing and acting in the world is often limited and counterproductive, especially when considering catalyzing creative critical consciousness. Being fixed makes any change difficult as it can create conditions wherein difference or uncertainty is a struggle, or clash.

Voegelin (2010) alerts us to this when discussing the ways in which grand narratives compete and clash with local and *petit récit* (small narratives) allowing little, if any space for a multitude of expressions and representations to be expressed, much less entertained (pp. 62-63). In other words, how and in what ways stories get made, told, consecrated, valued, whose stories are spoken with or against whom, and whose voices get heard, dismissed or silenced is a sonic social site of struggle, as articulated earlier by Roshanak Kheshti and elucidated by sound studies and

scholars addressing issues of race, class, gender and identity (Eidsheim, 2018; Eisenstadt, 2020; Gautier, 2014; Gershon, 2020; Stoeber, 2016; Wozolek, 2023).

A discovering drive does not pursue a one total meaning, or narrative, but invites curiosity and imagination to experience the world interpretatively, contingently, and thus hold space for multiple narratives, meanings, and interpretations. Kheshti's (2015) words ring true here as well in that "Sound's form is a hermeneutical tool; a wavy and reverberant materiality, it reflects, is productive of, and also engenders through resonance" (p. 111). Creating spaces for flux, fluidity, and "fleeting understandings" to be expressed, entertained, interpreted, and reinterpreted is crucial when considering catalyzing creative critical consciousness as it is in dynamic dialogical encounters wherein change is possible. Since students and teachers are coming from and tuning in multiple Sonic Commons, opportunities open for them to share how and in what ways their phenomenological encounters and experiences with sound may be similar and different. A discovering drive, as a pedagogical space, engenders multiple narratives and knowings. Cathy Benedict (2017) describes such spaces as "epistemological spaces of wondering and wandering [wherein] ...we embrace the power of contingency and demonstrate that the world is chaotic and unpredictable, and thus infinitely renewable" (pp. 14, 19).

In this study, Voegelin's notion of sonic sensibility and discovering drive along with Benedict's epistemological spaces of wondering and wandering became an avenue for curiosity, imagination, critique and creativity to be processed. This process was realized through what Deweyian educator/scholar Margaret Latta (2013) calls, "aesthetic play" and, for this purposes of this study, was operationalized through group improvisation and collaborative composition wherein sounds encountered, experienced, explored, and excavated from the Sonic Commons were used as musical material to be remixed, replayed and recorded.

Aesthetic Play. Latta (2013) asserts, “Aesthetic play opens into and cultivates the practice ground to deliberately engage the world” (p. xiv.). Deliberate creative critical engagement with the world via sounds encountered in the Sonic Commons was central to this study’s aims and research questions. For Latta, aesthetic play is: 1) elemental to being human, 2) generative in nature, 3) an expression of needing others, 4) embracing the temporal/spatial negotiation of risks and opportunities afforded, 5) interdependent with imagination, instilling embodied understandings, 6) demanding attunement to process and 7) reflexively informing self-understandings in relation to a wider context and citizenry. The properties of aesthetic play were significant in this study to the extent that they served as a way to conceptually approach and methodologically design activities.

Play, similar to sound, is a primordial phenomenological encounter informing and impacting the ways one comes to sense, know and be in the world (Ackerman, 1999; Bruner et al., 1976; Christensen, 2018; Gadamer, 2004, 1986; Huizinga, 2009; Nachmanovitch, 2019, 1990; Trueit, 2006). According to American poet, essayist, and naturalist Diane Ackerman (1999) “Every element of the human saga requires play. We evolved through play. Our culture thrives on play” (p. 4-5). For Ackerman, “deep play” denotes “peril and plight” (Ibid. pp. 7-8). The perceived danger of play is in its push to “disrupt the certainty of the present” (Christensen, 2018, p. 27-28) and unsettle one’s ordinary conception of things as it necessarily maneuvers through multiple iterations of interpretations and (re)knowings. Curriculum theorist and educator Donna Trueit (2006) posits play as “discourse” with the world and sees its activity as “a dynamic system of patterns and transformation that ‘makes it possible to deal with unresolvable differences and contradictions’ in a relational manner” (p. 98. See also Reiss, 1982, p. 49). Latta et al. (2017) positions play is foundational for “critical creative thinking... [and] urges educators

to question and interrogate... social injustices of our time through processes of de-narrativisation, un-storying, and re-narrativisation” (p. 209) via aesthetic play.

Former *Mister Rogers Neighborhood* writer, psychologist, ventriloquist and child trauma therapist, Susan Linn (2008) addresses the significance of play in her book, *The Case for Make Believe: Saving Play in a Commercialized World*. She maintains,

Play combines two wondrous and uniquely human characteristic — the capacity for fantasy and the capacity for, and need to, make meaning of our experience. By fantasy I mean imagination, daydreams, and the stories we may or may not share with others that design the future, reshape the past, make new things possible, and illustrate powerful feelings. By making meaning, I mean the drive to reflect on and wrestle with information and events so that they make sense to us, enrich us, and help us gain a sense of mastery over our life experience. (p. 12).

Linn’s notion of “mastery” is not contradictory to Rosa’s definition of resonance above because play, as Linn and Latta argue is not a “disengaged mastery of the world” (Rosa, 2020, p. 243) but a “deliberate” and conscious engagement with the world and ways one relates and reflects to/on/with the world and the things. Indeed, as Rosa articulates, schools are some of the first places students start to “grapple with the stuff of the world” (Ibid., p. 238), or as Linn says, “wrestle” with the world and the things to make sense of their potential meanings.

It is through playing with sonic material, archaeoacousticians assert that early humans came to know and be in their world. The work of Linda Eneix (2014), Paul Devereux (2001) and Iegor Reznikoff (2014) examined the acoustic properties of ancient sites pointing out Paleolithic human’s fascination and play with sound, silence and noise. Caves in France (e.g. Le Portal, Niaux, Arcy-sur-Cure and Oxocelhaya) and the Ural mountains (e.g. Kapova), for example, are

known not only for their pictographs of hunted animals, but also for the tiny red dots scattered along the walls. These dots have been shown to be marks painted designating areas of “peak resonance” which were used for navigation, ritual and celebration, thus amplifying Hendy’s (2013) assertion that “through noise we evolved. In a continuous feed-forward loop, new sounds, tonal effects, notes and rhythms were discovered...tried out...echoed back...copied, altered, replayed thousands of times, over and over again” (p. 9) en route to making and (re)making meanings.

Aesthetic play, on these terms, and the ways they were employed in this study were meant to make room for risk, responsibility and responsivity. Actively sampling sounds encountered and excavated from the Sonic Commons and then rehearing, replaying and remixing sound clips via group improvisation and collaborative composition were central to this study’s aims and research questions. Remixing, as digital media and critical cross-disciplinary scholar Korina Jocson reminds us, is to “appropriate, borrow, and blend texts to create new(er) texts... [Its] technique...provides ease in sharing and invites a community to participate” (p. 50). In this sense, sampling and remixing signifies what turntablist, composer and music educator, Paul Miller AKA DJ Spooky calls, “multiplex consciousness” in a “mix-tape culture” (Miller, 2004, p. 60-62) as it facilitates space where one can recreate mixes of their very “own self” in relation to/with/against their world (Ibid.). In this process of remixing one can broaden their capacities to hear and listen differently, think and ask other than ordinary questions, reassess values and fixed truths and reorient their relationship to the world and the things.

In the work of catalyzing creative critical consciousness, providing play spaces for exploring, excavating and examining sounds encountered in ones everyday life is one way to “name” frictions and tensions heard sounding in the Sonic Commons. Then, as one (re)samples,

(re)mixes, (re)hearses and (re)sounds sonic material therein exists possibilities to “reach toward wider spaces for fulfillment, to expand options, to know alternatives” (Greene, 1988, p. 5). It is in this play space where an “ethos of experimentation that is oriented toward carving out spaces for resistance and reconstruction” (Coté et al., 2007, p. 317) can reorient ones relationship to the world and the things en route to resonance.

Thus, it was through a process of sonic thinking, sonic sensibility, discovering drive and aesthetic play that this study’s concept, methodology and methods were derived (See Figure 2.1). In so doing the idea was to take the philosophical concepts just described and apply them across multiple methods or activities.

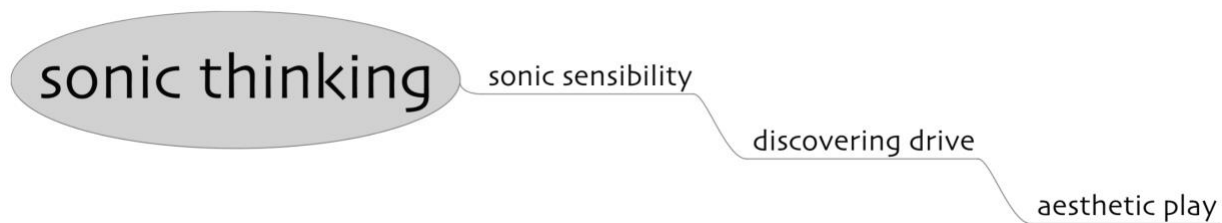


Figure 2.1

Summary and Supplemental Review of Related Literature

Attending to Abramo’s questions at the outset of this chapter, and filtered through Rosa’s notion of resonance, I suggest that it is through sonic thinking, sonic sensibility, discovering drive and aesthetic play wherein a music education that resonates may occur. This is because a music education that resonates carves curricular space inviting multiple and overlapping multisensory ways of knowing and being such that students may feel connected and inspired to respond to the world and the things. The qualities of sound and the experience of listening articulated in this chapter suggests that the ephemeral and elusive nature of sound — its flux,

fluidity and fleeting-ness — offers opportunities to listen “in the moment” (Rinsema, 2017, p. 128) with ears wide open for possibilities.

Sound as a pedagogical endeavor in music education, however, is not new. Neither is the notion that improvisation and composition opens avenues for creativity to flow. Canadian composer and educator R. Murray Schafer (1992) posited that sounds are “polysemous, always changing, always rendering new meanings” (p. 17). This led him on a life-long journey that began with him asking, “What is the relationship between [humans] and the sounds of [their] environment and what happens when these sounds change” (Schafer, 1977, pp. 3-4)? Through his analyses and reflections he came to conclude, “the general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society” (Ibid, p. 7). It is such trending and evolving or what I have come to call *sound currents* of society that this study was interested in exploring; specifically the ways in which these currents impact students’ relationship to the world and the things.

Clear calls have been heard across music education scholarship advocating a sound approach specifically to address some of the systemic deficiencies facing music students outside and inside of the music classroom. Creativity and criticality play a significant role in these endeavors. Generally speaking, creativity in music education research has been investigated through the domains of composition, improvisation and music cognition wherein musical products and processes are examined (Bamberger, 2013; Barrett, 2014; Collins, 2012; Lehmann, et. al., 2007). Criticality, on the other hand, has primarily been viewed through a sociological lens within the field of music education whose purpose has been to invite social-political discourse by identifying “social, economic, and institutional barriers...that constrain individuals’

or groups' life chances" (Salvador & Kelly-McHale, 2017, p. 7) and "challenge discourse that rationalize these structures" (Vaugeois, 2009, p. 3). Such work is centered in "transforming social consciousness" (Wright, 2016/2010, p. 276) for "social change" (Hess, 2019).

Investigating ways sounds streaming through students' daily trek through life may catalyze creative critical consciousness guided this study's questions, methodologies and methods.

Improvisation and composition have been shown to be significant and effective modes for inviting creative *and* critical musical engagement (Hickey, 2012; Kanellopoulos & Wright, 2012; Smith, 2014; Wright & Kanellopoulos, 2010; Younker & Hickey, 2007). Smith (2014) urges music educators to attend to students' lived experiences by "Allowing their voices to emerge and letting them define...what is important to them...what their feelings are, and to *sonify* those feelings" (p. 164 Italics added). In considering a music education "outside the lines" or boundaries of ordinary conceptions of music and music making, Hickey (2012) "makes it clear that any person is capable of composing music, and that *playing around with sound* is central to this process" (p. 7 Italics added). Regelski (2002) advocated "expanding musicianship education" by having students "listen to and use the sounds of their own lives and environments" to compose (p. 30). More recently, Toronto-based music educator Douglas Friesen has created an array of curricular activities and games featuring sound. However, beyond sound, Friesen (2014) says, "Music education needs more than a shift in method to become a place where students and teachers explore the sounds of their environment, explore their own creativity, and build community" (p. 10). Thus, there is a need for music education to consider sound, not just as another method or one size fits all plug-n-play set of components, but just as significant, to situate sound as a creative critical space for students to hear their world in ways they may never

have done before as they reorient their relationship, responsivity and responsibility to the world and the things.

This study responds to these calls by situating sound as a creative critical practice of resonance. Synthesizing sound philosophies and practices from earlier moments in music education history (Meyer-Denkman, 1977; Paynter & Aston, 1970; Paynter, 1992; Schafer, 1976; Thomas, 1970) with curricular activities that to my knowledge have not yet been tried, SOUNDCURRENTS centers, what I have come to call the *sonic lifeworld* as a site for creating, critiquing and catalyzing consciousness.

The following chapter lays out the methodological framings and methods this study used to bring to light the concepts and philosophies delineated above.

CHAPTER 3

Methodological framings

Exploring consciousness, specifically polyphonic ways of sensing, knowing and being, necessitates using methodologies that attend to affective, embodied, experiential and sensory aspects of perception. Three interrelated methodological paradigms within the realm of qualitative ethnographic research speak to such aspects: Gershon's (2020, 2018) sound arts-based research (SABR), Pink's (2009) sensuous ethnography, and phenomenology—specifically Vagle's (2018) post-intentional phenomenological research method wherein, “the phenomenon is seen as multiple, partial, contextual, in flux, and simultaneously producing and being produced” (p. 41). SABR starts from the premise that sounds inform and influence ways we come to sense, know and be in the world. They are both educational and methodological in that they offer teachers and researchers an ear into the lived experiences of their students and participants.

Phenomena that may otherwise go “unnoticed” in ocular-centric research paradigms, can potentially be heard in the sounds, noises, silences and spaces in between. Exploring and excavating everyday sounds was only one aspect of this study. Also of import was how and in what ways sounds collected may have connected to other sensations and embodied ways of knowing (i.e. touch, taste, scent, memory) across time and space. Sensuous ethnography played a significant part in designing methods capable of capturing such data. Because sounds and sensations intersect and intertwine to form a constellation of human experience, post-intentional phenomenological research methods opened up a design and analyses space for attending to the “gnarliness of life” (Vagle, 2018, p. 193).

Vagle's method also situated me as a researcher in unexpected ways as I was drawn back to my own early memories of sounds suddenly realizing their influence on how I have come to

sense, know and be in the world. Vagle's (2018) featured "Side-Notes" sprinkled throughout his methodology text highlighting his processes throughout his text were instrumental for me in clarifying that a reflective lifeworld research approach "involves becoming aware of how the phenomenon reveals and conceals itself to the researcher and demands that the researcher pay attention to how she or he influences and is influenced by the phenomenon" (p. 111). I wrote my own "Side-Notes" during my field work and this helped me in connecting what I have come to think of as "crossfades"—wherein participant voices and my came into conversation and transitioned into new understandings and possible meanings. These three methodological framings are delineated below and their specific purpose and use become clear in the specially designed methods this study used.

Combined, these methodologies seek to "understand how participants interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (Merriam & Tisdell, 2016, p. 6). This study is interested in discovering "meanings that can be constructed from the combining of the objects of nature and objects of consciousness" (Hourigan & Edgar, 2014, p. 150). Objects of nature in this study are sounds of life encountered, experienced, excavated and entertained through improvisation and composition activities; objects of consciousness are the creative critical reflections and discussions gathered from such engagement. The general structure of the study parallels multiple case study design as each of the four groups of participants is viewed singularly and collectively (Stake, 1995). This will be elaborated on in the Analyses of Data section.

In this section, I delineate ways each methodology contributes to this study's conceptual design and methods and then describe the research methods, protocols, data collection and analysis of data.

A call for sound within MusED

Recent discussions in the field of music education scholarship suggest a turn towards sound as a way of knowing and being. Thinking with, in and through sound as a possible methodology for qualitative research in music education was proposed by Abramo (2015) as he asked, “What can sounds reveal about how students and teachers communicate, gather meaning, and learn? How can researchers incorporate sound into the frameworks, fieldworks, and presentations of empirical research” (p. 271). Drawing attention to the interdisciplinary field of sound studies, Thibeault (2017) similarly suggests “music educators can look to sound studies for models to weave new kinds of nets to catch the world anew” (p. 79). By casting a wider net in music education research and practice, these music education scholars propose listening to/for sounds can open opportunities to connect with larger philosophical, pedagogical and sociological questions and concerns relevant to the field (e.g. race, class and gender). Such thinking aligns with the aims of this study and its interest in uncovering participants’ perceptions about sounds encountered and experienced in their everyday lives, and how such sounds may reveal aspects of creative critical consciousness. This backdrop directed the methodological framing and field work to be all sonically driven.

Sound Arts-Based Research (SABR)

Similar to Abramo’s (2015) question above, curriculum theorist Walter Gershon speculated the possibilities of sound by querying, “What might attention to education through an ontology of the sonic imply and engender for educational understandings” (Gershon, 2018, p. 50)? First conceived as “sonic ethnography” (Gershon, 2011, 2012; Daza & Gershon, 2015; See also Gershon, 2018 pp. 129-133), Gershon designed sound arts-based research (SABR) methods (Gershon, 2020, 2018) to explore sounds pedagogical potential, particularly in populations of

students that have been systemically marginalized in school and university settings. SABR starts from the premise that “sounds combine to form systems of meaning that can serve to simultaneously transmit, reify, challenge or reinvent sociocultural norms and values...[and]... inform ways in which people understand their relation to the spaces and places, understandings that strongly contextualize the ways in which individuals constitute their identities" (pp. 27-28). SABR is in many ways a logical and natural extension of arts-based research (ABR) and critical arts-based inquiry (CABI) as they share similar aims and methodological techniques. Specifically, it is in the creative products and critical processes and products wherein research paradigms such as ABR, CABI and SABR can “open up zones of possibility for intellect and imagination to launch analytic projects into unexplored space” (Jipson & Paley, 2007, p. 5). It is in such spaces where the “principles of play, improvisation, aesthetics, space, time, rhythm and mind/body or embodied connections” (Kossak, 2013, p. 5) can work to reveal new and nuanced meanings. As Kossak (2013) notes

the phenomenological experience is represented through the creative act itself. The artwork, no matter what the medium (sound, rhythm, movement, enactment, poetry, paintings), opens up a space in which both the world and our being in the world is brought to light as a single, but inexhaustibly rich totality. (p. 20)

Thus, SABR takes into account the ways persons express their understandings about their relation to self, others and the world via sonic phenomena encountered. SABR methods uniquely serve this project’s research aims and questions as they provide a framework through which to gather, analyze and share participants’ experiences and reflections via their own voices as audible links are available for readers to hear and listen.

SABR methods also serve this study's aims and questions as it repositions and reorients the researcher to the complexities and nuances sound affords. For example, in this study sonic phenomena constitute the things said/unsaid, heard/misheard and the sound pieces created via group improvisation and collaborative composition. They also include sound effects (e.g. laughter, sighs, inflections, surprises, skepticisms, perplexities) heard in the in-between moments of interaction — including moments of my own analyses and reflections (i.e. voice memos and voice-overs during my listening review/replay). Attending to spaces between sound, noise and silence were as equally salient as the things spoken or heard directly and instantaneously. Similar to the way sound behaves, vibrations occur in cycles as they travel through the air (or another medium) to reach an other's ear. Onsets, peaks, phases and dips, filters, fades and crossfades, diffraction, delays, aliasing and decay all play a part in the signaling processes. Participants' personalities and stories unfolded over and across these processes — sometimes in the most unexpected ways (e.g. pre-session murmurs while mingling and setting up recording gear, fire drill interruption during session, morning anthems and prayer recitations, snack breaks).

Leaving room for what sometimes seemed to me to be an “awkward” pause or “unplanned” moment, opened space for participants to respond to questions and prompts in/on their own time and in their own ways. In these “breaks” I was afforded an opportunity to truly stop and listen in real time — waiting until later to splice and weave narratives spun in segments. It was only later that I then realized how sometimes in the moments of quiet hesitation, participants were simply grappling with shyness, insecurity, stress, anxiety, loss and displacement among other things I may most likely never fully know; and nor would I need to necessarily since knowing manifests in multiple ways, but always must start with being in the

moment as much as possible — listening to and (re)cognizing who is in directly in front of you. As bell hooks (1994) articulates,

we do not necessarily need to hear and know what is stated in its entirety...we do not need to ‘master’ or conquer the narrative as a whole...we may know in fragments...we may learn from spaces of silence as well as speech... [and] in the patient act of listening to another tongue we may subvert that culture of capitalist frenzy and consumption that demands all desire must be satisfied immediately. (p. 174)

In these ways, SABR methods uniquely served, not only this study’s aims and questions, but also acted as a disruptor to researchers (including myself at times) perhaps hoping or expecting objective, clean-cut data collection and clear uncluttered narratives and findings as the findings are always *being* (re)found and researched. Particularly such is the case for this project as articulated earlier: the conditions under which the study took place (i.e. pandemic interruptions, school closures, participant illnesses and quarantines) were anything but smooth.

SABR uses some familiar qualitative ethnographic research methods (e.g. questionnaires, observations, field notes, interviews, focus groups) with the added element of sound, or “vibrational affect” as Gershon suggests. Gershon (2013) notes, “Vibration is patterned oscillation. It is this patterned movement that causes resonance, a system that is constantly fluxed, moving and out of phase with itself and its layered ecologies” (p. 258). For this study, vibrational affect is significant because it attends to aspects of orientation and relation one has to/with their world. Recall Rosa’s (2020) notion “axes of resonance” in educational settings which is predicated on a rhizomatic matrix of relations and responses between teacher, student and material. Or, in the case of this study: researcher, participant and methods/activities. The ways in which these elements vibrate can either bring one into *resonance* with or *alienation*

away from. Of concern in this study were the ways sound-based methods (i.e. protocols and activities) were perceived by participants and how such perceptions elicited a reorientation and creative critical response towards everyday sounds, not just musical sounds — of which all participants in this study were familiar and accustomed. Because sonic thinking was central to the aims of this study, recording participants' voices, reflections, concerns, challenges and other oral responses were just as significant as their written documents (e.g. journals, SCC table, graphic scores). To this end, the methodological structure here described facilitated and guided how I listened out for patterns of thinking and values based upon what participants said, how they interacted with each other, with me and the material during the study (axes of resonance) and used their expressions to reflect on how and in what ways creative critical consciousness was catalyzed.

Reorienting researcher-participant relationship in SABR methods

SABR is centered within a constructionist paradigm, assumes a relativist ontology, a subjectivist epistemology and a naturalistic set of methodological procedures (Denzin & Lincoln, 2018, p. 20). Thus, SABR invites participants into the research process as co-researchers. This was important for this study because it meant working together to come to understandings about sound as a viable pedagogical tool in music curriculum. If a sound pedagogy as it has been theorized has potential to nurture open, creative and critical spaces in music classroom environments, then soliciting and listening to feedback from music students can aid in developing strategies, models and best practices. Such collaboration also helped establish trust that the research process was not one-sided (me, as researcher peering in). Participant investment was key. The co-researcher status also extended to the two partnering high school teachers that offered their music classroom space as a research site. Their active engagement, reflections,

critiques and recommendations were indispensable; particularly given the many pandemic restrictions we needed to maneuver around during the study. Their educational expertise and excellence came into play throughout the research process.

Because SABR is born from qualitative ethnographic research methods, it inherits some of its “complicated history” and must take into account colonialist tendencies to interpret someone else’s life for them (Gershon, 2018, pp. 142-143). In some ways, sound, being the salient feature of SABR, can help mitigate speaking for someone as the bulk of the communication gathered is expressed through participants’ own voices. However, this does not mean “sounds cannot be misheard...or that sound representations are in some ways more ‘real’ than other representations” (Gershon, 2013, p. 259). Drawing from sound studies theorist, Jonathan Sterne, Gershon says, “sounds provide an opportunity to move from ocular metaphors of ‘framing’ to ‘sonic imaginations’ [that are] necessarily plural, recursive, reflexive driven to represent, reconfigure and redescribe” (Ibid.). For Gershon, sound also offers “the ability to present sounds-as-sounds rather than text-as-sounds [and] can remove a layer of authorial translation and interrupt Western notions of the centrality and authority of text and the written word over other forms of expression (literally and figuratively) while providing an opportunity for others to be heard in their own voices, prosody, inflection, affect, and intention intact” (Ibid.). As readers of this study engage with the stories and sounds presented, they will be able to hear directly from participants as audio files will be made available.

SABR | Technical considerations and Impact

Related to this, and a significant consideration of SABR is microphone choices and ways in which recordings occur, specifically their spatial placement in relation to participants. In this study, sessions were recorded using two audio recording devices — One Zoom H4n Pro Four-

Track Audio Recorder and one Zoom H3-VR Ambisonic Recorder — and one audio/video recording device — 1 Zoom Q8 Handy Music Video Recorder with LCD (Given pandemic restrictions some of the sessions, interviews and focus groups were recorded using the Zoom Video Conferencing platform). Gershon (2018) notes, “Microphones matter. [and] Microphone placement matters” (pp. 145 & 147). Field recorders like the ones used in this study feature onboard adjustable X/Y patterned stereo microphones that ensure a natural stereo image when recording sounds. The Zoom H3-VR Ambisonic Recorder has the added benefit of four unidirectional condenser mic capsules that can record a three-dimensional sound with natural depth and width; it also features an auto mic position detection system using a 6-axis motion sensor. So as participants moved around their voices were captured.

One pleasant surprise for me in using the ambisonic recorder binaural feature was its educative value during the study. Most participants were familiar with virtual reality (VR) and video game scores that literally place the player in the sonic field such that they can sense surround sound around them on a visceral level. The Zoom H3-VR Ambisonic Recorder replicates this sensational behavior. During the Sound Session Workshops (SSW) and the Sound Walk (SW), I offered participants an opportunity to listen through this device with headphones. Their sonic experience of the environment (classroom, corridors, campus, park and streets) immediately shifted as sounds became more pronounced and dynamic not only in their ears but also in their bodies; thus amplifying Gershon’s (2018) notion that “sound is not only something heard but also something felt, a phenomenon that places aurality and sonic meanings at the forefront of questions in the field of curriculums studies” (p. 17) and by extension as I propose here pertinent to music educators seeking to engage critical and socially just pedagogies.

Given mic choice and mic placement it is inevitable that unintended sounds are captured during recording (e.g. door and floor creaks, overhead light humming, outside ambiance like birds, planes and car and motorcycle engines, side conversations). This proved beneficial in this study because during review and analysis it contextualized the spaces where workshops happened, enabled me to pick up on discussions that were not in the foreground and also became sonic material with which to explore via improvisations and compositions. As Gershon (2018) notes, “silence is an impossibility and ‘incidental’ or unanticipated sonic information is as valuable and significant [as] such information will impact one’s analysis as affectively as cognitively and speak as much to notions of sensation as they do to construction of signification” (p. 148). Thus, anticipated and unanticipated sounds gathered from this study served to enhance my reflections and analyses. This was especially true in the moments where I had physically left the room and in the coffee break moments where sonic activity was still happening, and upon listening back I could grasp information that I had not necessarily been primarily seeking and that proved helpful in understanding participants’ experiences inside and outside of the study (e.g. conversations about courses, concert schedules, pandemic angst).

Finally, SABR carries some ethical considerations around the use of SABR, specifically questions around sound manipulation. In other words, to what extent sound files are altered after recording (e.g. splicing, leveling amplitude, audio effects) is important to consider as this can create interference between what participants said, when and where they said it and how this may influence interpreting their meanings. For this study, I have intentionally not altered any aspect of the sonic information recorded. Like Gershon (2018) “Cuts between files are left rough...a move that places the information addressed in the hands of the audience so that they can not only hear the information for themselves but also make a more informed decision about the arguments

I have made” (p. 149). It is hoped that as readers of this study engage the selected recordings here presented, they may find themselves immersed in the sounds and silences and thus also come to draw their own conclusions.

Sound Arts-Based Research (SABR) applied in education

While SABR has to my knowledge not been used in music education research to date, it has found resonance with curricular theorists and education researchers to call out issues such as race (Wozolek, 2019), gender and sexuality (Wozolek, 2018), social, political, and economic barriers, disparities, and injustices (Wargo, 2018) and social justice in education, specifically young men of color navigating predominately white institutions (Gershon, 2020) to cite a few. SABR has opened ways for students to address personal, cultural and social issues pertinent to their lived experiences. Contrary notions where one claims to ‘give voice’ to an Other, SABR is a way for persons to take hold of the mic and speak their own sense with their own voices. Wozolek (2018), for example, locates the “affective and sonic tensions between the curriculum, those who are broken by the curriculum, and those witnessing and, in many cases, maintaining the spaces and places that break LGBTQ students” (p. 375). She makes piercingly audible the sounds of LGBTQ high school students who have attempted suicide, and those who have followed through, arguing, “schools tend to concentrate on the noise created in the wake of a voice being silenced rather than the sounds of students breaking” (p. 368). Sonic cartography (a method used in this study called Sound Mapping) played a pivotal role in helping students and Wozolek analyze “schooling, depression, self-harm, and suicide from the students’ perspectives” (p. 371) and identify where “assemblages of violence [and] capitals of shame” (p. 376) were normalized in the structures of schooling. For Wozolek, “the pills, the knife, the gun- those are the sounds of the product that happen after breaking has occurred as a process of schooling.

Listening to the sounds of students breaking can be heard every single day in school” (p. 377) in the classroom, the corridor, and the curriculum. Studies such as this indicate the potential value sound methods can afford, while aligning fully with the aims of this study in creating spaces for critical and socially just pedagogies.

Sensuous ethnography

Sensuous ethnography was used in this study to gain access into ways participants describe, not only the sounds encountered in their everyday life, but also how they understand their relationship to those sounds across and in relation to space, place, time, memory and other bodily sensations (e.g. touch, taste, smell, sight). Sensuous epistemologies — the overlapping and interconnected ways one comes to know the world via the senses — has been explored through “sensuous scholarship” (Stoller, 1997) and “sensory ethnography” (Pink, 2009) and is part of a larger turn within ethnographic qualitative research paradigms exploring sensory experience, perception, sociality, knowing, knowledge, practice and culture (Howes, 2005, 2003; Ingold, 2000; LeBreton, 2017/2006; Rodaway, 1994; Simmel, 1997/1907; Thrift, 2004; Tuan, 1977).

For this study, I draw on the work of Design and Cultural Anthropologist, Sarah Pink (2013, 2009) whose ethnographic field work encompasses examining unique experiences like women and bullfighting (1997) to everyday human activities and practices like laundry and the production of gender (2005) to sustainable food solutions such as the Slow Food Movement (2008) as well as digital futures (2021) and automated futures (2022) exploring smart home technologies (2018), self-driving automobiles (2019) and soundscape design of motorway parkland environments (Lacey, et. al., 2017) among others. Of importance to Pink’s work is

understanding how and in what ways people sense and shape meaning from interacting within their activities and environments on multisensory levels. She asserts,

Doing sensory ethnography entails taking a series of conceptual and practical steps that allow the researcher to rethink both established and new participatory and collaborative ethnographic research techniques in terms of sensory perception, categories, meanings and values, ways of knowing and practices. It involves the researcher self-consciously and reflectively attending to the senses through the research process, that is during the planning, reviewing, fieldwork analysis and representation process of a project. (p. 7)

Questions of *perception, place, sensory embodied knowing, sensory memories* and *sensory imaginations* are five key principles of Pinks' sensory ethnography model that align with this study's aims and methods. Her notion of "emplaced ethnography" emphasizes researcher reflexivity and "attends to the question of experience by accounting for the relationships between bodies, minds and the materiality and sensoriality of the environment" (Ibid., p. 25). In outlining sensory ethnography, Pink links her questions and ideas together through an overview of literature across theories of perception, place/space, embodied cognition, memory and imagination. How these principles connect with this study's aims, research questions and design is what follows next.

Perception. Drawing from ecological theories of perception wherein all aspects of bodily sensation are at the center of human perception enabling one to come into a knowing and being in the world, sensory ethnographers seek ways to create methods and analysis and reporting styles that account for multiple ways of experiencing and expressing phenomena (Gibson, 1966; Merleau-Ponty, 2014/1945). In this study, one's creative critical consciousness in relation to the world via sound was under investigation. However, sounds as sensed though hearing was only

one area of initial interest. The Sound Collection and Classification (SCC) table described below in the methods section, is one example of a space help for participants to describe sensations as well as the context and significance sounds encountered may have had for them. Such methodological approaches, as discussed in Articles 2 and 3, were consequential in how participants shared ways sounds connected them to other senses like taste, touch and scent.

Place. The role of the environment is another significant factor when trying to understand how one makes sense of their world. Feld & Basso (1996) have shown how a turn towards the senses in ethnography offers routes to exploring groups' and cultures' place-making practices. The complex relationship between people and places, particularly given global conditions of forced migration, exile, displacement and volatile borders, as well as redressing colonial-settler disruptions of Indigenous people's lands, has been highlighted by scholars centering the ways that place-making via the senses is interconnected. For Feld & Basso, (1996), "Because motion can draw upon the kinesthetic interplay of tactile, sonic and visual senses, emplacement always implicates the intertwined nature of sensual bodily presence and perceptual engagement" (p. 94). Thus, he calls "acoustemology" is a way to account for the ways of "experiencing and knowing a place — the idea of place as sensed, place as sensation..." (p. 98).

Place played an important part in this study in unexpected ways. Due to pandemic related illnesses some participants in the high school group carried out their sound collection and Sound Map (SM) work in isolation. The ways they oriented towards sounds in their limited environment (e.g. bedroom, washroom, kitchen) and creatively and critically reengaged sounds through their Sound Piece (SP) compositions speaks to the ways place shaped their ways of knowing. Some high school participants whose families had immigrated to Canada spoke to the ways sounds from video games gave them a sense of belonging to a new place and community.

These stories are shared in Article 2. Undergraduate participants also spoke to the ways place and space shaped their perceptions of things they heard and sounds they collected both on their own and in our trilocal Sound Walk (SW). Their stories are highlighted in Article 3.

In my personal reflections of place, particularly feeling displaced at times in the dissertation process during the many pandemic related interruptions, I noticed how my perceptions shook from a sense of standing on solid ground to feeling lost in the process of trying to come to know what I was hearing and seeing. In these ways, the making of place and space bring to light Edward Casey's (1996) and Doreen Massey's (2005) notion of place as "event [that] is constantly changing through social and material relations and practices (Pink, 2009, p. 32) and as such are, what Tom Ingold (2008) calls a "zone of entanglement...a field not of connectable points but of interwoven lines, not a network but a *meshwork*" that is fluid, open and unbounded (pp. 1796 & 1805 *Italics original*). Thus, in sensory ethnography, the researcher, participants and the spaces and places they individually and collaboratively co-create and co-inhabit are understood as intersubjective and always in motion.

Sensory embodied knowing. Ways of knowing and practices of knowledge and meaning making was a significant aspect of this study's aims given the curricular and pedagogical intentions and implications. Sensory embodied knowledge is integral to sensory ethnography and showed up in various ways during the process of this study. How and in what ways participants interacted with everyday sounds in a variety of environments (e.g. school, university music studio, practice rooms, city streets, rural neighborhoods, parks) and how such sounds were in turn (re)interpreted and applied (e.g. listening, improvising, composing, visualization, rhythmic movement) were integral to gathering and analyzing sound's effects multi-sensorially. As mentioned above, participants and I were co-researchers in this building of new knowledge.

Given the collaborative nature of this study and the reflexivity sensory ethnography engenders, it was important to ask “how do the people who participate in our research learn...[and] how can we [the researcher] learn to occupy or imagine places and ways of perceiving that are similar, parallel to or interrelated with and contingent on those engaged in by research participants” (Pink, 2009, p. 34)? Learning theorist and practitioner, Étienne Wenger’s (1998) notion of “situated learning” and “communities of practice” sheds light on how sensory ethnographers can attend to questions of knowledge. Wenger’s (1990) thesis work developed analytical categories for researching how people come to know what they know. In it he argued that “knowledge does not exist by itself in the form of information...it is part of the practice of specific sociocultural communities...Learning then is a matter of gaining a form of membership in these communities: this is achieved by a process of increasing participation” (p. xv). Of import in communities of practice are the “artifacts, symbols, language [and] gestures” (Ibid.).

Wenger’s (1998) social perspective of learning is a complex system that entails twelve interdependent categories: 1) learning is inherent in human nature, 2) learning is first and foremost the ability to negotiate new meanings, 3) learning creates emergent structures, 4) learning is fundamentally experiential and fundamentally social, 5) learning transforms our identities, 6) learning constitutes trajectories of participation, 7) learning means dealing with boundaries, 8) learning is a matter of social energy and power, 9) learning is a matter of engagement, 10) learning is a matter of imagination, 11) learning is a matter of alignment, and 12) learning involves an interplay between the local and the global (pp. 226-228).

In the context of this study, participants were versed at varying levels of knowing music and knowing themselves as musicians. Because “sonic thinking” (Cox, 2018) and “sonic sensibility” (Voegelin, 2014) as discussed in the Introduction and in Article 1 were core to the

conceptual framing and research questions, accounting for ways participants came to know differently was necessary. The methods, as described below, were designed to offer multiple multisensory ways of questioning what they knew and often meant working towards an un/re-knowing their “ordinary relationship to music” (Cox, 108, p. 137) via everyday sounds, and then applying that new knowledge via critical conversations and group improvisation and collaborative composition activities. Participant interviews, journal reflections and focus group discussions demonstrated the difficulties of knowing anew; and also uncovered affordances of thinking and knowing away from the familiar.

Of significance, for undergraduate participants specifically were the ways their embodied ways of knowing and performing music shifted when thinking in, with and through sound, and when switching between musical instruments. When using their primary instrument to improvise together, some participants expressed difficulty because their fingers already knew where to land to get the “right” sound. When switching to instruments with which they were less or unfamiliar, the same participants said they felt freer to explore because they did not know how to exactly navigate their fingers; thus relying more on their ears and intuition to experiment musically. Their observations correlate to studies in embodied cognition showing how musical instruments as technological extensions of one's musical self influences how one hears, thinks and performs music (De Souza, 2017; See Article 3).

Artifacts collected and analyzed from this study align with learning theories such as Wenger, and also accentuate sensory ethnography's required “attention to the roles of perception and action...[and] invites us to understand knowledge transmission as something that occurs through our emplaced engagements with persons and things” (Pink, 2009, p. 37). Given my music and teaching background, as shared earlier in the positionality statement, meant that I also

needed to attend to my own sensations of knowings; disrupting these as best as possible by pivoting, reorienting and straddling across multiple knowings as I worked to make sense of participants' reactions and responses during our interactions. My field notes observation protocols were designed to capture and describe my feelings, things I heard and saw, and things I was left wondering as it related to the space, place and people with whom I was working alongside (Appendix L).

Sensory memories. Sensory memories is the fourth of the five principles in Pink's ethnographic model. Of import are individual memory (i.e. researcher/participant) and collective memory (i.e. researcher/participants and participants/participants) and how these work together and against each other to generate knowledge. Cultural anthropologist C. Nadia Seremetakis (1996) starts from the premise that "sensory memory is a form of storage [and] is always the embodiment and conservation of experiences, persons and matter in vessels of alterity" (p. 28). She elaborates, "sensory memory is encapsulated and stored in artifacts, spaces, and temporalities of both 'making and imagining', of sharing and exchange" (Seremetakis, 2019, p. 117). For Seremetakis, the making and imagining in sensory memory is necessarily dialogical in nature; as is "ethnography and its performance, where performance is understood as the intervention in everyday structures that release meaning hidden within social and material relations" (Seremetakis, 2019, p. 10). For sensory ethnographers, designing ways to elicit, analyze and share memorable experiences and expressions contributed by participants can help elucidate meanings that may otherwise get lost or go unnoticed. Undergraduate participants in this study, for example, completed a Music Background Questionnaire (MBQ) prior to individual interviews and the first Sound Session Workshop (SSW). They were asked to recall, identify and describe sounds including 1) the first sound they remember ever having heard, 2) the loudest

sound, 3) the softest sound, 4) their favorite sound, 5) their least favorite sound, 6) the scariest sound, and 7) the funniest sound. Their recollections became points of departure for conversations about childhood, family, school, hospitals, parties and more. Their sonic remembrances also demonstrate how sensory memory can activate other senses, places, spaces and people. Some of these stories are shared in Article 2.

Thus, sensory memory in ethnographic fieldwork can account for ways participants perceive phenomena based upon recollections of things past that are then brought to the fore in the present; allowing the researcher a deeper grasp of participant's life experiences and histories. Part of this weaving of histories points to the role imagination plays in sensory ethnography.

Sensory imaginations. Sensory imaginations is the fifth and final principle of Sarah Pink's ethnographic model and stems from an idea that researchers can never fully know participants, and thus must puzzle together as best they can pieces from participants' lives that they have shared during the research process. As such, Romanichal Traveller ethnographer, Judith Okely (1994) says the ethnographer "may creatively construct correspondences" between their own and others' experiences (p. 36). Okely contends researchers "cannot replicate others' experiences, but she can use her own 'subjective character of experience' for a vicarious understanding to surmise others' experience" (Ibid. See also Nagel, 1991, p. 166). She sees fieldwork as a "total bodily experience, not one merely dependent on verbal accounts...[wherein]...body and soul" must work together to better understand and articulate participants' lived experiences (Ibid., p. 45). It is worth noting that sensory ethnography, having been born from cultural and anthropological research methods, pushes back against ideas purporting that shared experiences or empathetic engagement is somehow unattainable and should be abandoned. Okely contest Clifford Geertz's notion that "We cannot live other people's

lives, and it is a piece of bad faith to try...[or]...Whatever sense we have of how things stand with someone's inner life, we gain it through their expressions, not through some magical intrusion into their consciousness" (Ibid., p. 36 See also Geertz, 1986, p. 373).

Because consciousness is paramount to this study's research questions, methods were designed to elicit as much of the inner life of participants' relationship to sound and music as possible. However, it was also through our interactions where I could observe participants' non-verbal responses and gut reactions. The Observation Template used in this study aided in gathering data that took into account three primary areas: ecology, sound engagement and sonic mapping (Appendix L). First, to get a general tone of the space and participants' reactions to being there; the energy so-to-speak. Second, to observe how participants engaged in the study activities; their body language and proximity to each other, nervous giggles, etc. Third, to witness if, how and in what ways study activities segued into wider discourse around creativity, criticality, identity and consciousness about sound's role in shaping their understanding about themselves, others and the world.

Sensuous ethnography and COVID- 19

While the pandemic was not an ideal time to carry out a dissertation research project, I believe it did allow a space for sensory imaginations to come together. Senses were in several instances stunned into hyper silence and isolation so when we were finally able to meet for our workshops there was a sense of joy. This was not imagined and can be heard, seen and felt in the audio and video recordings. It also cannot go unsaid that the general sensation of the world was in a state of shock — desensitization for some and over stimulation for others — not just because of the global health crisis, but also due to the fierce injustices and world-wide unrest occurring simultaneously. Participants and I felt the waves of distress as cities were under siege and

burning during the Black Lives Matter protests, the alt-right's attack on the U.S. Capital, school shootings in the U.S. and Russia's invasion of Ukraine. These events highlight Paul Stoller's (2009) observation that "the imagination...enables us to approach the world afresh...to weave the world, to design a new blanket...to tell stories which give birth to new stories, which generate, in their turn more stories" (pp. 169-170). New stories were and are needed post-pandemic and global unrest. Participants' memories, reflections and narratives collected in the study were shaped by their individual and collective experiences. Sensory ethnographic research methods aided in gathering together those experiences and supported this study's concepts and guiding questions because it demanded an ongoing attention to the senses as a holistic way of knowing and being in an unsound world.

Post-Intentional phenomenology

Educational phenomenologist Mark Vagle's (2018) post-intentional approach to phenomenological research is grounded by three concepts — phenomenology as an 1) encounter, 2) a way of living and 3) a craft. Echoing Max van Manen's (1990) seminal work, *Researching Lived Experiences: Human Science for an Action Sensitive Pedagogy*, Vagle (2018) reasserts, "Phenomenology aims at getting a deeper understanding of the nature or meaning of our everyday experiences...[it] does not offer us the possibility of effective theory which we can now explain and/or control the world, but rather it offers us the possibility of plausible insights that bring us in more direct contact with the world" (p. 16 See also, van Manen, 2001, p. 9). This is important to this study's concept and methods because it is "deliberate engagement" (Latta, 2012) with the world via sonic encounters being elicited, entertained and examined. Vagle's particular methodological framing offers a way to analyze data generated in this study as it prioritizes consciousness — a key question under consideration here.

Vagle views post-intentional phenomenology as a bridge between phenomenological and post-structural philosophies and methodologies. This bridge helps address some of the terminological issues associated with phenomenological research, specifically *intentionality*, *essence* and *bracketing*. The “intentional” in Vagle’s post-intentional work serves to clarify what he sees as misunderstandings around the term intentionality as it is often understood in phenomenology (Husserl, 1970/1900). Intentionality is not to be confused with one having an intention towards something, as in “*what we choose or plan*” (Vagle, 2018, p. 58 *Italics original*). Such is an autonomous view of being in the world wherein body and mind are considered separate entities and the mind holds the key to consciousness and control. The subject (i.e. human) /object (i.e. the world) orientation stemmed from early French philosopher René Descartes and is generally called the *Cartesian split*. One problem with this understanding is that it creates a skewed view that humans given their faculties for reason and logic could lord over their bodies and consciousnesses and the bodies and consciousness of others including non-human life (See Vagle, 2018, pp. 188-190).

In thinking through a reorientation to the world via Rosa’s (2020) concept of *resonance*, methodologically, it is important to move away from this body/mind/world split and see life and our relation with it as a series of interconnected and interdependent possible meanings. Drawing from phenomenological philosophers following Edmund Husserl (Heidegger, 1998/1927; Merleau-Ponty, 1964/1947; Sartre, 2002/1939), Vagle says, “Intentionality is neither in consciousness nor in the world. It is the meaning link people have to the world...in their everyday contact with the world...” (Ibid., p. 59). Furthermore, “intentionality...is the act of coming in contact with the world, living in the world, and through the reflective process, making meaning of the world” (Ibid., p. 71). Intentionality in the post-Husserlian sense is a way of

finding-oneself-in relation to the world (Heidegger), *bursting forth toward the world* (Sartre) and being connected through intentional threads (Merleau-Ponty). What Heidegger, Sartre and Merleau-Ponty have in common in their conceptions of intentionality is “a commitment to the idea of connection — and that the meaningfulness of living and the lifeworld resides in the connectivity among humans, things, ideas, concepts, conflicts, etc., not in humans or in things or in ideas alone” (Ibid., p. 190). It is these multiple connections and threads of meanings from participants’ experiences with everyday sounds that this study seeks to uncover.

Husserl’s notion of essence and bracketing, which is often understood as the search for “universal truths...unaffected by social context, power, and agency” is the second term Vagle’s post-intentional phenomenological methods addresses (Ibid., p. 61). Drawing from Heidegger’s hermeneutical phenomenology, Vagle moves toward an ontological approach to consciousness and intentionality, wherein *manifestations* instead of *essences* are attributes of knowing and becoming, and are not static but dynamic. For Vagle, “Intentional relations, then, are in a constant of interpretation — and logically there would not be necessarily ‘essence’ of a phenomenon, but plausible interpretation of manifestations and appearances” (Ibid., p. 63).

Husserl’s notion of “bracketing one’s judgments and pre-understandings of the world” (Ibid., p. 38) is the third term Vagle’s post-intentional phenomenology addresses. Again, drawing from Heidegger’s ontological turn, it becomes clear that bracketing is not a productive way to engender researcher reflexivity — an action this study takes seriously. Smith (2018) addresses this succinctly, “For Heidegger, we and our activities are ‘always in the world’, our being is being-in-the-world, so we do not study our activities by bracketing the world, rather we interpret our activities and the meaning things have for us by looking into our contextual relations to the world” (p. 18). With these terminological resolved, Vagle’s methodology

supports this study's concept and methods as it attends to meaning, meaning making and reflexivity.

The post-structural philosophies guiding Vagle's methodology are drawn from the work of Deleuze and Guattari, specifically the conceptual figurations *lines of flight*, *multiplicities* and *rhizome* as articulated in their text, *A Thousand Plateaus: Capitalism and Schizophrenia* (1987/1980). Such conceptual figurations focus on how things connect rather than trying to define what things are (Lorraine, 2005). Post-intentional phenomenology methodology views connections as non-linear, in motion "entangled...[and] always being written *and* rewritten" (Vagle, 2018, p. 192 *Italics original*). Thus, meanings (i.e. intentionality) "are constantly being constructed, de-constructed, blurred and disrupted...at times with clarity, but most often in the gnarliness of life" (Ibid., p. 193).

For this study, connections were of particular importance because the overall aim was to try to understand how and in what ways everyday sounds linked to participants' understandings about their relationship with/in/to the world. In this study patterns and networks of meanings presented themselves. By drawing on post-intentional phenomenological research methods, I was able to account for the patterns and network of meanings and apply them to the research questions being investigated.

Finally, Vagle's methodology prompted me to pay special attention to my own consciousness in ways I had not initially anticipated. The focused attention on reflexivity gave me multiple opportunities to pause, pivot and reorient as I took into account my situated-ness, and to see the significant role it played in my interactions and interpretations. Personal notes morphed into short stories recounting my recollections about my relationship with sound, music, composing and the meanings I had made and grappled with during my years of learning,

teaching and facilitating similar work. I was surprised to recall the things that I did — sounds from childhood, early experiences in middle school music classes, for example — and to see how material gathered in this study drew me in and back to thoughts and feelings long ‘forgotten.’ In these ways, I came to understand that clear beginnings and endings are never possible as we always enter into the middle of things (Deleuze & Guattari, 1987/1980). It is in this middle world where I found the space to entertain the research questions posed and develop the following methods to help uncover the potential of a sound pedagogy.

Methodology Summary

In summary, this study draws upon qualitative research methodologies centered in sound arts-based research (SABR), sensuous epistemologies and post-intentional phenomenology. These methodologies combined enabled me to attend to sound, sensation and consciousness. The next section delineates the specially designed methods developed for this study. These methods, or activities were meant to attract and accumulate an array of diverse insights into participants’ ways of making sense and meaning from their lived experiences via sonic phenomena.

Methods

In line with qualitative methodologies described above and given the complexity of experiences and particularity of the research design, several data sources were specially designed for this study. Sometimes these data sources overlapped between the two participant groups. At other times they were unique to each group. Below, I will delineate methods that were common to both participant groups first, and then describe those unique to each. (See Figure 3.1) It must be noted that due to pandemic restrictions and consistent disruptions to data collection

throughout the study, methods were not as cleanly gathered as anticipated. However, from a curricular and pedagogical perspective, the need to have an adaptable practice was brought to light. From a research perspective, specifically post-intentional phenomenological methodology, being open to the “gnarliness of life” (Vagle, 2018, p. 193) present during this study enabled me to observe how the methods landed over extended lapses of time in participants’ bodies and minds in ways not anticipated.

I also came to understand that the methods did not need to happen in linear fashion, nor did each need to be “completed” in order to satisfy study requirements. There was enough built in redundancy within the methods such that any combination of them in whole or in part were able to generate sufficient data for analysis and reporting. Again, from a curricular and pedagogical perspective, I think this is noteworthy because it means any music teacher wishing to use these methods can do so quite easily by integrating any or all of them into their lesson plan. Partnering music teachers on this project did ask me to reface some of the methods to meet their classroom goals. This simply meant adding ‘activity sheets’ to the method nomenclature so that their students could access something familiar and more akin to an assignment. Some of the methods designed for this study were curricular in nature — things a teacher may do in their classroom — and others served as strictly research data gathering (i.e. interviews, focus groups). First, I will describe the curricular methods and protocols as these may be adopted and adapted by any teacher wanting to invite sound activities into their classroom space.

G1 Methods Diagrammatic



G2 Methods Diagrammatic



Figure 3.1

Sound Session Workshops (SSWs). Central to the delivery of the methods were the Sound Session Workshops (SSWs). For undergraduate participants, SSWs ran approximately three hours over four Saturday mornings. For high school participants, SSWs were commensurate with their in-school class schedule, approximately ninety minutes and lasted over the duration of a semester. SSWs were meant to be in-person. However, due to multiple lockdowns, school closures and school board visitor/researcher restrictions, most took place virtually via Zoom. The only group that had all in-person sessions was the first undergraduate group (UG/A), although what was meant to be four consecutive weeks, took six months due pandemic related issues. Sessions were designed to offer participants multiple opportunities to individually and collaboratively listen, critique, play and create using sounds they collected. The semi-structured sessions provided a supportive space for participants to explore, experiment and entertain sounds via group improvisation and collaborative composition activities. SSWs were segmented into three semi-structured levels — *soundplay*, *soundthink* and *soundcreate* (See Figure 3.2).

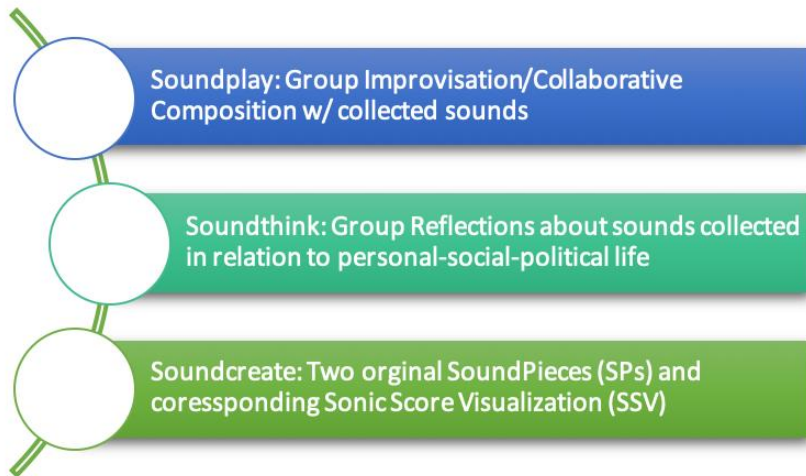


Figure 3.2

Each session started with a *sound breaker* including adaptations of Pauline Oliveros’ *Sonic Meditations* (1971). For example, her “Environmental Dialogue VIII” engendered space for deep listening and engaging sounds heard in/outside the classroom (Listen on *SOUNDCURRENTS* playlist). One sound breaker included establishing a steady tempo with instruments at hand and calling out favorite foods and colors, thus connecting to other elements of participants’ senses like taste and visual tints and tones. *Soundplay* consisted of improvisation games using sounds, visualizations, rhythmic gestures/movement and soundcard prompts, like “Name that Place” where participants wrote on blank index cards names of three to four places they had been or would like to visit. Cards were shuffled and participants randomly picked a card, broke off into groups of two, and using a variety of instruments and voices composed a piece *sonifying* the place written on the card. Soundplay activities took approximately twenty minutes and segued into *soundthink* wherein participants shared their reflections and processes of the preceding activity. During soundthink, participants were prompted to consider possible links between sounds and any personal social-political meanings present. One such piece — “Day at the Course” — featured sounds of a nearby golf park where one undergraduate participant

worked on weekends. She spoke to the ill treatment staff experienced from some members of the golf club and the ways white privilege and elitism played out in environments like these — where leisure and business mixed to produce “more than just innocent games” (Listen on *SOUNDCURRENTS* playlist) Another piece — “The Internet” — spoke to the sounds of commercialism and the “noisy distraction of popup advertisements always trying to get you to buy something”, as one participant said (See Article 2).

Following soundthink, the *soundcreate* segment of the session included semi-structured *sound jams* using visual prompts like La Monte Young’s (1969) “Dream House” sound and light installation, photographs I had taken at the Maui Ocean Center in Wailuku, Hawaii while celebrating my daughter’s college graduation in 2019, and other evocative environmental settings and abstract art to facilitate aural imagination. One of the pieces produced during the sound jam with university music undergraduates spoke to their feelings about the pandemic. Specifically, they were intrigued by the various sounds they heard and did not hear. Sounds of paper towel and hand sanitizer dispensers, hand washing, less highway and street traffic, more birds and scurrying wildlife dominated the pandemic soundscape. Noticeably absent was the sound of coughing, which participants attributed to people perhaps suppressing coughs and sneezes so as not to “sound sick” and maybe be “singled out and judged” (G2B, SSW1). Sound jams also drew upon sounds participants had collected and categorized in the Sound Collection and Classification (SCC) table — resounding and structuring them using available instruments and voices. Sound Session Workshops ended with 15 minutes allotted for participants to jot down their reflections of the workshop activities into their Sonic Narrative Journal (SNJ).

Sound Collection and Classification (SCC) Table. Powered by Padlet, a cloud-based customizable bulletin board application, the SCC table was designed for participants to easily

upload sound clips they collected throughout the study. Each participant group (2HS/2UG) was assigned a link to their unique table, so that a total of four SCC tables were created during the duration of the study. Each week participants uploaded five to seven sound clips ranging from 7-25 seconds in length. Most used their voice memo app on their mobile phones. Some used dedicated digital recording devices (e.g. Sony, Olympus). Sounds shared on the SCC table became a starting point for critical discussions and creative play. Participants were encouraged to use the SCC table as a database resource for their original Sound Pieces (SP). Seven classification data points comprise the SCC table: 1) sound, 2) sensations, 3) space and time, 4) source, 5) significance and/or context, 6) musical aspects, and 7) musical (re)sound. (See Figure 3.3). Data points correlated to the overall philosophical and methodological framings described earlier. Once a sound was recorded and uploaded to the SCC table, categories 1-5 offered participants an opportunity to describe any immediate visceral reactions and feelings, log their location and time of day and report any significance sounds had such as memories or connections to their personal-musical-social-political lives. Categories 6 and 7 drew participants into creative aspects of their sounds, opening space for them to think about sounds as material for improvisation and composition. The SCC table allowed a way for participants to begin with sonic thinking, then move to sensuous aspects of sound including temporal-spatial and contextual-significance and finally using their already acquired musical knowledge work towards realizing sounds ‘musically’ through recontextualization process. ¹

¹ I am grateful to Dr. Cathy Benedict for calling attention to my initial use of the term “Elements” specifically asking me what I meant by using it. Elements of music are of course varied by culture and context. And, to say something is elemental carries positivist ideology. A better way, I think is to consider the ‘aspects’ of music (in one’s specific understanding of organized sound) and how those might map to orchestration and arrangement potential. Equally, I am grateful for Dr. Mathias Hinke (Universität der Künste Berlin: *QuerKlang – Experimentelles Komponieren in der Schule.*) for suggesting that *Significance* can be closely tied to Context, and therefore should also be considered in relation to sound.



Figure 3.3

Samples collected included sounds made by humans (e.g. talk-speech, chatter, mumbling, gurgling, music practicing, etc.); sounds made by animals other than humans (e.g. barks, chirps, growls, purrs, etc.); industrial sounds (e.g. trains, coffee machine, construction sites, etc.); street sounds (e.g. autos, buses, traffic signals, sirens, persons without homes, etc.); cyber/digital sounds (e.g. mobile phone ringtones, mouse clicks, video game startup, music practice room security codes, etc.); and seasonal sounds (e.g. walking in snow, rainfall, thunderstorms, etc.). Between both sets of participants groups 179 sounds were uploaded to the SCC table.

Approximately half were used in my analysis as participants did not always complete data for each category requested. Partly this was due to our meetings and in-person communications being continually disrupted; so, reminding participants was not always easy. When they were reminded, Padlet proved idiosyncratic such that columns did not always line up with rows. So, when/if participants would go back at a later date (after uploading their sounds) to complete the remaining categories, they would become lost and annoyed and simply skip category completion. These issues were addressed when we were finally able to meet in person, and some time was taken during our sessions to talk through the SCC table as a group, thus generating more categorical data and rich discussions. Plenty of sounds were collected and cataloged appropriately making the SCC table a valuable asset to this study's concept and design.

Sonic Narrative Journal (SNJ). Participants were asked to keep a personal journal throughout the study recording their observations, critiques and overall impressions and reflections about their experiences thinking and creating in/with/through sound. While there were

no specific prompts for the SNJ, participants were encouraged to consider any surprising discoveries; challenges or entanglements; connections to musical-personal-social life; differences/similarities to their “normal” musical engagement; and any grunts, gripes wishes and take-a-ways they may have had at any time during the study. SNJs included written text and audio files as some participants preferred sending voice memos to me after each session. It was noticeable, particularly in the high school groups that some participants who were shy during sessions had much to say in their journals. Two participants in particular who seemed especially reluctant to open up during sessions provided profound and detailed feedback in their SNJ.

Sound Walk (SW) and Sound Mapping (SM). Both participant groups engaged in a tri-locale sonic cartographic exploration. Undergraduate music majors participated in an approximately two-hour group Sound Walk (SW) starting from campus, then to a local park nearby and finally the downtown area. The SW was meant to provide an alternative space for dynamic listening, reflection and interpretation. Using SW as a method for data collection and analysis has a sustained history (Adams et. al, 2008; McCartney, 2014; Behrendt, 2019; Schafer, 1977; Semidor, 2006; Staśko-Mazur, 2015; Westerkamp, 2007/1974). Sound walks have been practiced to uncover social, political, and ecological issues including: gender identity and place (McDowell, 1999; Shimakawa, 2007); urban development and displacement (Augoyard, 2005/1995); pedagogy, race, and activism (Black & Bohlman, 2017); cultural geography and sensuous urbanism (Butler, 2006; Degen & Rose, 2012; Radicchi, 2018); acoustic ecology (McCartney, 2010; Droumeva & Jordon, 2019; Wagstaff, 2002); creative social practice (Black & Bohlman, 2017; Gutierrez, Long, & Leonardson, 2017; Ouzounian, 2014); and creative critical aesthetics (Paquette & McCartney, 2012; Taylor & Fernström, 2019). The SW in this study was meant to uncover and call attention to some of these issues.

I adapted aspects of Hildegard Westerkamp's (1974) seminal sound walk prompts and Amanda Black & Andrea Bohlman's (2017) critical re-enactment of these prompts. For example, before the SW participants were prompted with questions about their expectations for the walk. Responses were posted to SCC table. During the SW, participants were asked to listen out for signals, or sound gestures that strike them as significant, or out of place and incongruent with other sounds in specific surroundings. Personal cell phones and/or other audio and/or audio/video recording devices were used by each person to record such sounds. University sounds, park sounds, downtown sounds were recorded during the SW, and afterwards participants posted their impressions, assumptions, surprises, juxtapositions, nuances, irritants, etc. to the SCC table. Earwitnessing (Wargo, 2018) and eavesdropping on the environments trekked and traversed during the SW was encouraged and expected. Some of the sounds recorded from the SW may be heard on the playlist (Listen on *SOUNDCURRENTS* playlist).

Given pandemic restrictions and sporadic school schedules and closures, high school participants engaged in a solo venture Sound Map (SM) activity. Similar to the SW, participants in this group were asked to visit three distinct locations — home, school and neighborhood. Their task was twofold. First, they listened out for and recorded sounds that sonically traced their movement from each location, paying particular attention to how sounds were similar/different at different times of day. Their goal was to capture their sonic experiences contextually so that sounds could serve as a guide or reference points to potential listeners — a sonic tourist map of sorts wherein someone could possibly retrace their steps and activities by the sound clues provided. Second, they were asked to listen out for sounds that seemed out-of-sync with the environments they trekked. Each participant plotted their SM using a DAW (Digital Audio Workstation) of their choice.

Both the SW and the SM proved fruitful for each participant group, however, in slightly different ways. High school participants connected their passion for cinematic OSTs (Original Soundtrack) and video game soundtracks in composing their pieces (See Article 2). Because one high schooler was in quarantine, his composition creatively crafted sounds from the three places he frequented in his home — bedroom, bathroom and kitchen (G1A SM, Tracy, “Bathroom”). Another high school participant, Simone, spoke about their feeling “grateful” for being able to “notice the small things and like how their sounds work...[to] be more aware of [their] surroundings” (G1B, SO). Another high school participant, Bling Dawg, commented on the “fun...after 2 years of being stuck at home...it gave [him] a reason to go outside and find sounds” (G1B SNJ). Deana, an undergraduate participant spoke to their experience of the group SW as being sometimes “less comfortable as [she] had to face [her] privilege, and...felt a little more unsafe than in the previous locations” as typically she wears “earbuds” when walking (G2A AM, SNJ). Another undergraduate, Curtis, said “we did encounter some very real scenarios that teach some life lessons about how not everyone is granted the same opportunities or able to live as luxuriously as others. While it was nothing new to me *per say* [se], it was definitely amplified by the fact that we were actively listening during the walk” (G2A CW, SNJ). Article 2 and 3 detail more narratives from participants describing their interactions and reflections from the Sound Walk and Sound Mapping activities.

Sound Piece (SP). Participants in both groups were initially asked to compose two original Sound Pieces (SP) — one alone and one collaboratively. Given schedule constraints, recurrent illnesses, absences and other pandemic related issues, I decided early on in the study that one SP would be less stressful and time consuming. Throughout the study, I regularly checked in with participants and made sure that the methods remained open and adaptable for

their well-being and mental health during these particularly difficult times. As it was, a total of 25 SPs were completed and collected during the study (SC Playlist). SPs offered participants an opportunity to freely use their creativity and imagination using sounds they and their co-participants had collected and classified on the SCC table.

Sound Pieces were composed using acoustic instruments as well as MIDI (Musical Instrument Digital Interface) in a DAW of participants' choosing. Some SPs were generated during the SSW's In line with Sound Arts Based Research (SABR) methods, the compositions became valuable research data into participants' creative critical processes. Participants' SPs spoke to scenarios and issues significant to them. Playing with temporal-spatial aspects of perception, one music undergraduate created a sonic collage which included various ensemble rehearsals heard playing throughout the day while in their practice room. The initial impression I had when listening to the SP is that they had moved to/between each rehearsal space to record. However, as they articulated in their journal, they were stationary sitting in their practice room, and , "each time I close and open the door, a new group is playing" (G2B, Participant 2, SNJ). Thus, the practice room door became a filter through which to let in sound to their space at different times during the day. I was reminded of Seattle-based composer, improviser and phonographer Christopher DeLaurenti's (2007) *Favorite Intermissions: Music Before and Between Beethoven, Stravinsky, Holst*, which in his words was meant to "expose the unexpected, overlooked, and hidden skeins of music woven in the world around us" (<https://delaurenti.net/favorite/>).

Another SP created by a high school participant consisted of purrs from her cats. She said she found these sounds "relaxing" and that "this project made me discover new interests and sounds, and it also made me create a sound that I will use when I'm studying" (G1B, Maria, SO).

Sound Pieces generated for this study offered a variety of creative output and also opened opportunities for participants to practice listening to their world in ways many said they had not previously. SPs generated critical discussions around school shootings, gun policies and mental health, immigration, childhood nostalgia, professional music career aspirations, economic inequities and many other personal and topical issues relevant to participants' lived experiences.

Sonic Score Visualization (SSV). Participants were asked to create a graphic representation for their SP. During the study, I supplied some examples of how composers have used sounds in their compositions as well as illustrations of graphic scores (Classic FM, 2020; Hall, 2022/2003; Oliveros, 2013; Sauer, 2009). SSVs were also used in the Sound Session Workshops (SSWs) as improvisational game material. For example, in one SSW each of the four participants listened a few times to a recording of their SP, "Day at the Course" and drew a graphic representation of what they heard. Participants talked the group through their individual scores, highlighting ways they delineated time, key change, melody and rhythmic contour. Then, they realized each SSV using guitar, ukulele, piano, recorder and plastic golf balls. While basic melodic content stayed similar, each iteration yielded varying effects in tempo, dynamics and articulation. SSVs were not so much about achieving an accuracy of musical representation, but more so about mirroring compositional processes like notation via thinking with, in and through sound visually. Participants were mostly unfamiliar with graphic notation. This proved beneficial because they were working with clean slate so-to-speak. The ways they spoke about their SSV showed that they had begun to conceptualize sounds as shapes, pictures, patterns, text and waveforms; thus, moving outside of their normal way of approaching music notation and thinking sonically as composers. SSVs were not collected from high school participants. I noticed that this method lands well when meeting in person. Most of the sessions with high

school music students were done via Zoom, and it was difficult to connect this method with their SP work. I noticed that SSV worked best when we were able to listen, critique, listen again, laugh and perform together. The 2 SSVs shared in this dissertation research were created by university music undergraduates. Their scores for “Pandemic Times” and “Day at the Course” are collected and shared here (Appendix M) as well as their reflections about their creative process using SSV (See Article 3).

Methods unique to participant groups

The following methods described are unique for each group. Three methods were designed specifically for high school participants: Under Construction (UC), Sound Table (ST) and Sound Out! (SO!). For university music undergraduates the unique methods designed included a: Music Background Questionnaire (MBQ), pre-SSW interview, Focus Group (FG) and a post-SSW interview.

High school music participants (G1)

Under Construction (UC). Derived from many professional symphony orchestra’s “open rehearsal” model where new compositions are work-shopped with a live audience, Under Construction (UC) was designed to promote a space for high school participants to share and receive feedback from peers on their Sound Piece (SP). Initially, UC was planned to occur around the midpoint session (~ SSW5/6). However, given the scheduling challenges and inconsistencies due to COVID-19, time was allowed during each SSW for participants to share where they were at in their creative process. This adjustment proved beneficial because participants were able to regularly receive peer feedback, integrate new ideas into their compositions and hear steady progress over time. UCs were guided by Liz Lerman’s Critical

Response Process. This is a multi-step collaborative system for giving and receiving useful critique on creative processes and artistic works-in-progress based on three roles (Artist, Responder, Facilitator) and four core steps (Statements of Meaning, Artist as Questioner, Neutral Questions, Opinion Time) (<https://lizlerman.com/critical-response-process/>).

Sound Table (ST). Mirroring elements of a focus group, the Sound Table (ST) provided a hub, or round table, where “a rich and detailed set of data about perceptions, thoughts, feelings and impressions of people in their own words” could emerge (Dilshad & Latif, 2013, p. 192 quoting Stewart & Shamdasani, 1990, p. 140). The ST was meant for dialogic “collective conversations...[or] study circles en route to conscientization” (Eros, 2014, pp. 889-890 Italics original; See also Diaz, Soto & Swadener, 2005). The focus at this penultimate point in the study was to better understand how and what ways participants articulated their creative critical processes during the study and how their interactions with sound methods might play out in their future. Four questions guided the ST conversation: 1) Where do you see your musical self in the future?, 2) What do you see as the potential benefits musical and otherwise of listening more closely to your environment, 3) What was your favorite part of creating in this way? and 4) What were the challenges you faced creating in this way? The ST lasted approximately 75 minutes and offered insights into high school participants’ experiences thinking in, with and through sound. Initially, I had planned for two ST sessions — the first, to focus on the creative products (i.e. Sound Pieces) and the second to gather participants’ critical insights, specifically how sound methods may have helped develop their “sonic sensibilities” (Voegelin, 2014) such that they connected sounds to “wider personal-social-political issues” (RQ2). As scheduling was impacted by the pandemic, one ST session occurred in our final meeting together (Week 9).

Sound Out! (SO!). Similar to a performance or concert, the Sound Out (SO) was intended to honor the diligence and efforts of all participants. Following the SO!, participants were asked to share one or two comments about their experience and take-a-ways. Instead of having a “final” concert, however, scheduling conflicts allowed us to have multiple “mini-concerts” throughout the study wherein participants performed their pieces and discussed the meanings behind their creative work. This adjustment worked well because it minimized some of the performance pressure while allowing a steady flow of creative works to be entertained during the nine weeks.

Undergraduate music majors (G2)

Music Background Questionnaire (MBQ). In order to better gauge undergraduate music majors’ feelings and levels of comfortability, confidence and experience with creative music making like group improvisation and collaborative composition, I adapted and applied aspects of Smith’s (2014) Music Background Questionnaire (Appendix G).² Smiths’ questionnaire addressed some of the tensions and challenges I anticipated, particularly as they related to participants’ accustomed ways of knowing and being musical. Similar to methods employed in this study, Smith’s (2014) dissertation research also presented some non-customary ways of engaging in music (e.g. visual art, rhythmic movement, free musical improvisation). The 17-point MBQ designed for this study was also meant to capture participants’ musical biography (i.e. major, instrument/s, years playing etc.) and to gather any preliminary conceptions they may have had around sound, silence, noise, music, improvisation, composition and creative critical

² I am grateful to Dr. Smith for taking time to talk with me about the questionnaire and granting me permission to use and modify it for this study.

consciousness. The MBQ served as a useful tool before, during and after the SSWs, and offered a starting ground to begin conversations in the pre-SSW workshop interview.

Pre-SSW Interview. Before the first SSW, I met with participants individually for approximately forty-five minutes to clarify MBQ responses and to address any concerns or questions they had. Seven questions guided this semi-structured interview (Appendix H). Some of the sentiments behind the questions overlapped with the MBQ, and others were meant to deepen my understanding about participants' everyday sound and listening experiences. In question two, for example, participants were asked about their frequency consciously interacting with everyday sounds encountered and then to describe those in as much detail as possible. As these were music majors with varying levels of comfortability, confidence and experience with improvising and composing, I was also interested in how they might imagine and articulate any potential similarities and/or differences creating with sounds instead of musical notes and accustomed patterns (i.e. scales, progressions, etc.) posed. The MBQ and the pre-SSW interview gave me an opportunity to better grasp participants' initial dispositions towards thinking in, with and through sound, and also consider how I might go about adapting workshop material to meet individual and group needs. Both interviews in this study were "dialogic" (Roulston, 2014; Tanggaard, 2009).

While this method of interviewing is "relatively new in qualitative methodological literature and has yet to influence work in music education research" (Roulston, 2014, p. 255), I chose this interview technique for this participant group because of the nature of the research questions being investigated, especially RQ3 which speaks to constructions and perceptions of musical identity and roles. The dialogical interview protocol invites "dissenting opinion and discourses within a particular field...reflect broader diversity within institutional talk and

practices...[and] accounts for the “polyphon[y]...of voices, words, and discourses that structure the conversation” (Tanggaard, 2009, p. 1499). This was important for this study because G2 participants represented a body of voices that had been musically trained and socialized to listen, think and be in particular ways that do not necessarily involve creative music making activities like improvisation and composition (Isbell, 2008; Randles & Smith, 2012; Roberts, 1991, 1993; Woodford, 2002). Participants’ ratings of their comfort and confidence levels improvising and composing, collected in the MBQ, corroborates the uneasiness some felt when stepping into creative identity roles.

The notion of “sonic thinking” (Cox, 2019) was also abstract and remote for most participants because it countered the kinds of aural skills they were used to practicing (i.e. western harmony ear training, intervallic relationship and pitch identification etc.). Thus, the dialogical interview protocol opened opportunities to invite institutional and curricular critique and push against accepted ideologies present in participants’ normalized experiences of being musical. Article 3 speaks to some of the dissensus present in this study and is instructive when thinking through the affordances and challenges of a sound pedagogy in school and university music education programs.

The dialogical interview technique allowed for “negotiation of meaning” between me and my participants as “interviewing [was] viewed as a social setting for the proliferation of polyphonic dialogues, in which there are many voices and discourses that cross each other simultaneously to produce knowledge about personal narratives and social life” (Tanggaard, 2009, p. 1500, 1503). Through the dialogical interview process, participants and I were in effect co-researchers talking through and tackling pedagogical concepts, expressing moments of consensus and dissensus en route to personal and systemic change.

Focus Group (FG). Our final meeting consisted of a focus group guided by nine questions (Appendix J). Participants were reminded of the overall purpose of the study and offered opportunities to share and discuss their feelings and takeaways. Guiding questions were designed to elicit feedback about the study methods and gather participants' reflections about any shifts they may have noticed in their creative critical consciousness as a result of the study activities. Because participants were and would be music teachers in various capacities (e.g. public/private school, private studio), FG questions were centered around perceived benefits, hurdles and feasibility of a sound pedagogy from their experiences thinking in, with and through sound. The FG also opened a space for final sharing and cross-talk about limitations of the study — both in its methods and in the ways they were facilitated. Participants were generous, open and critical about the many obstacles faced as a result of the pandemic and the areas where they felt more pedagogical guidance was needed. As participants had worked together throughout the study there was a level of comfort among them such that candid conversation could ensue. Questions related to their experiences working collaboratively and in what ways their prior musical experiences influenced their ensemble dynamic were also discussed.

Post-SSW Interview. Post-SSWs lasted approximately forty-five minutes and were guided by twelve questions (Appendix I). Similar to the pre-SSW interview's "dialogic" protocols, the post-SSW individual interview opened a space for participants to reflect and share their feelings and thoughts outside of the group setting. It also allowed me a chance to consider comments made in the FG and offer any elaborations or clarifications. As this was the final point of contact with participants, outside of any future member checking, the post-SSW interview also gave us an opportunity to engage in frank discussion and wrap up any last minute details participants wanted to express about their experiences. Because this study sought to uncover the

pedagogical potential of sound — the things a music teacher might do in the classroom practice — the post-SSW interview surveyed participants’ final statements, curiosities, challenges and critiques. One participant, for example, expressed their struggle with some of the ideas and activities, and wanted to know more about how this study might inform future music learning. Their insights and concerns touched on some of the language and themes of the literature informing this study, like John Cage’s “purposeful purposelessness or a purposeless play” (Hill, 2018); especially as it related to their feelings about musical engagement and daily life as always needing to be an exercise in “purpose” and “just getting things done” (Participant 2, G2, post-SSW Interview). In the same breath they spoke to the scheduling constraints university music faculties face when “like there’s already so much to know when it comes to music...it’s just a lot right...It would just be a whole new thing to learn about with sound. But like it would be a lot about prioritizing like what you teach more of, what gets taught less” (Participant 2, G2, post-SSW Interview). Thus, the post-SSW interview opened conversation into ideas that had not necessarily been previously expressed as participants could freely speak in hindsight to their experiences. Article 3 expands on this conversation with Participant 2.

Data Collection

Introduction

Data was collected and analyzed in accordance with standard qualitative research protocols and those unique to the methodological framings guiding this proposed study, specifically Gershon's (2020, 2018) SABR methods and Vagle's (2018) post intentional phenomenological research methods. These methods for collecting and thinking through data speak to/with the conceptual and methodological framings articulated above. Both methods represent what Grbich (2013) cites as "postmodern influences" (p. 107). Such influences carry "strong emphasis on self-reflectivity and subjectivity as well as a focus on small scale research without generalization" and attends to the "transitional and non-finite...nature" of being alive in the world (Ibid.). Ways in which data is "displayed" is another significant factor in such influences and is pertinent to the way I have chosen to share data collected in this study. Grbich (2013) notes,

Displays of results in postmodernism incorporate: irony, playfulness, illusion, pastiche, parody, brilliance, an emphasis on improvisation, satire of others and the self; the use of variety of visual, textual and other genres; multiple narrators and voices as well as fragmented and open and closed forms to breath the boundaries of genres and to encourage the audience to see and see through, to participate in events and to interpret experiences gained at (almost) first hand. (p. 108)

Data was being analyzed at all points during data collection. As Vagle (2018) notes, "it is difficult to separate gathering of phenomenological material from analyzing phenomenological material, as the two are delicately intertwined throughout the phases of the study" (p. 165). In line with post-intentional phenomenological research methods, data was analyzed through a

synthesis of “descriptive, interpretive and reflective lifeworld approaches....[involving] a whole-part-whole analysis method” (Ibid.). During an initial listening through of recorded interviews and focus group sessions, I tracked salient statements and moments. I created “audio narratives” (Gershon, 2018) using recorded soundbytes that spoke to the research questions. I listened for ways participants discussed any changes they experienced in their listening, creating and thinking. What kinds of talk or ‘chatter’ is happening in the activities? For G2, what was said in post-interviews that was different or the same in pre-interviews? What information was gathered via their interacting with sound material that might help elucidate ways transformation or augmentation occurred in their creative critical thinking and action?

Then, I transcribed all interviews and focus group sessions. Some participants chose to share their Sonic Narrative Journal (SNJ) via audio recording. Those, I transcribed as well. After transcribing all interviews and focus group sessions, the whole-part-whole analysis method was used. This involved a six-step process: 1) Holistic reading of entire text, 2) First line-by-line reading, 3) Follow-up questions, 4) Second line-by-line reading, 5) Third line-by-line reading and 6) Subsequent readings (See Vagle, pp. 167-170). It was through this process that a “pattern of meanings” (Dahlberg, 2006) emerged and I could employ a “code to meaning” (Saldaña, 2013) process to pinpoint themes.

Modifying Miles, Huberman, and Saldaña (2014) Contact Summary Form (CSF), a participant profile highlighting participants’ interests in/outside of music, musical tastes and future goals, idiosyncrasies, and other characteristics unique to each participant. As I got to know participants better throughout the study, I augmented participant profiles as I got to know participants. This was particularly useful for me in getting to know the high school study participants as they did not have a Music Background Questionnaire (MBQ) as part of their

protocols. Also, we met virtually for most of the sessions, so it was important to try to get the best sense I could of them. Keeping a participant profile helped facilitate that process.

Recordings collected during this study received minimal, if any, editing or post-production processing. I preferred keeping the recorded activities in their original “rough cuts” (Gershon, 2020, p. 55) as this allowed participants’ voices to be heard without effect interference, and it allowed ambient sounds to stream in/out/through. In a few instances, when a participants’ voice was soft, I used Audacity’s *Amplify* effect feature to heighten the waveform and boost the decibel. In some instances, specifically in the sharing of sound pieces and SSW-generated improvisations, I used the fade in/out effect feature. Otherwise, the only editing present in the recordings accompanying this study, is me cutting/splicing material that calls attention to pertinent moments relating to research questions, findings and themes.

PHASE 1 | G2 Recruitment and data collection - (stalled before starting)

Pre-delay

Recruitment for this study began following university IRB Ethics approval. Study Protocols and Procedures provided to the IRB team took two iterations before final approval was granted, as COVID- 19 contingency plans needed to be addressed and clarified. Once approval was granted (mid August, 2020), recruitment began during the first few weeks of Fall term (early September). Announcements were posted in the music building, classroom visits were made and ‘word of mouth’ helped spread the call for study participants. Word of mouth included university music professors and instructors informing their students about the study and encouraging them to get in touch if they were interested. It also included undergraduates I had known through prior TA work or had been enrolled together in split undergraduate/graduate courses letting their peer community know about the study. The university site for this study is supportive of creative and

critical initiatives and work to foster spaces for engaging multiple of ways of knowing and being musical. Still, recruiting during pandemic times was challenging as students were coming out of the first summer of the pandemic after an abrupt Spring semester end, and were moving into hybrid models of instruction, with some choosing not to relocate to campus; thus, limiting the participant pool for in-person study participation.

<https://onlinelibrary.wiley.com/doi/10.1002/nur.22258>)

<https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-021-05567-0>)

Originally, six music undergraduates were recruited for the first study group (G2A) and signed the Letter of Information and Consent (LOI/C). However, one recruit, due to their family's restaurant business being impacted by COVID- 19, needed to work on the weekends to help out as there was a staff shortage. Another recruit needed to unexpectedly care for their elder family member on weekends outside of the city where the research was taking place which impacted their ability to attend workshops. Both participants made it through initial stages of recruitment completing a Music Background Questionnaire (MBQ). Of the two, one made it through to the pre-Sound Session Workshop (SSW) Interview phase. However, given that neither were able to move into the Sound Session Workshop (SSW) phase and other study methods, their data is not used in this analyses.

Similarly, for the second study group of music undergraduates (G2B), four were initially recruited. One person had to reconsider their decision after signing the LOI/C due to personal health issues. The second person realized that it would be too much of a 'strain' on their travel time and they needed time to look for new work as their employment and housing was in pandemic-related jeopardy. An option for them joining the sessions via Zoom was offered.

However, they declined. I believe this impacted G2 study participants' sense of building a study cohort as they were two, in comparison to G2A study participants where there were four.

Delay

Study data was gathered intermittently between Fall 2020 and Summer 2022. Due to pandemic interruption, primarily school closures, university lock-downs and social distancing policies, sessions were delayed. For the high school study participants, data collection did not begin until January 2022 and ended July 2022 as school boards were not allowing any outside research while teachers were dealing with navigating a hybrid classroom.

For the university music undergraduate study participants, originally, four consecutive Sound Session Workshops (SSWs) were planned, one Sound Walk (SW) and a Focus Group (FG) so that from start to end data collection should have taken six to eight weeks (allowing a two week 'wiggle room' period). Modifications were made to adhere to changing university policies guided by provincial health experts' frequent ongoing updates. Care was also given to account for participants' scheduling preferences, as some had jobs, family illness and other logistics to handle as they navigated undergraduate university life in a pandemic. Flexibility and adaptability seemed the best choices as it lessened some of the strain we were all feeling.

Start

Signed study consent forms trickled in during the last week of October, 2020. Participants were then sent a Qualtrics link to access the Music Background Questionnaire (MBQ). Following MBQ completion, pre-SSW individual interviews were scheduled during the first two weeks of November. Once completed, arrangements were made for SSWs to begin on Saturday 28 November. SSWs continued consecutively for three weeks (5 Dec, 12 Dec) before

holiday breaks. As there was still one SSW and the SW and FG left, participants and I agreed to start back up once semester commenced in the early weeks of January 2021.

PHASE 2

Following each SSW, I used the Field Notes | Observation Protocols template — Crossfades from the Field — to notate my reflections and feelings about things I heard, saw and was left wondering (Appendix L). While on holiday break, I reviewed the audio/video recordings of our three previous SSWs, and notated session flow, interactions between participants, me and the activities, and moments that connected to the research questions. Special attention was paid to ways participants discussed their relationship to sounds, music and creating and performing with sounds. For example, during SSW snack breaks, audio recording continued. Conversations were captured relating to upcoming ensemble concerts, rehearsing with COVID- 19 protocols and the new ways of listening for balance and intonation that resulted; and how their conductors dealt with “standing there in front just trying to keep everyone together” (Sarah, SSW 2). Conversations also included talk about course work, school/life/work stressors, how many steps they were tracking on their smart watches to make sure they exercised regularly and upcoming holiday plans. During these breaks, participants also noodled around on their instruments producing an array of unplanned improvised musical moments. Of note, and highlighted below in soundcurrent 3, two participants spoke to the ways a piece of repertoire they were rehearsing in studio, involved the use of extended technique, specifically in their embouchure. They connected this to the improvisation games during SSWs where they were trying to imitate sounds on the SCC table. Thus, data was collected across active study events (e.g. SSWs, SWs, pre/post-SSW interview, FG) and ‘in the break.’

Restart/Pause

Plans to begin SSWs in January were delayed as new health directives from the province impacted university semester start dates, and subsequently students returning to campus. Participants and I kept clear lines of communication open. Participant work schedules were also impacted by the province's lockdown measures and some lost hours at their service industry jobs. One participant, Gorlami, took the initiative to create a Facebook Messenger Group Chat for everyone to stay in touch. Periodically, he would post sound-related events, news and compositions using sounds he had come across, sharing these with everyone in the group. A sense of a study cohort developed between participants. Once participants were back on campus, we scheduled the remaining SSW, Sound Walk (SW) and Focus Group (FG). Participants and I met on campus for the SW on 6 March 2021 and walked through campus to a local city park along the river and ended up in the downtown center. One participant, Deana, was unable to join us due to her work schedule. She did a solo SW and reported back her results to the group. SSW 4 occurred on 20 March 2021 — three months after our last SSW. Participants opted to have one more SSW to work on their collaborative Sound Piece (SP) in Bandlab, and to move the Focus Group (FG) virtually.

During the SW, I took audio notes related to participants' discussions and interactions with the three sound environments we traveled. Later, I transcribed the audio notes. Following our virtual FG session, I listened and took notes that stood out in relation to the research questions, and then transcribed the FG. For this study, I transcribed all interviews and focus group sessions. Some participants chose to share their Sonic Narrative Journal (SNJ) via audio recording. Those, I transcribed as well. I did not transcribe SSW. For SSWs, I listened several times to each session taking written notes of content related to research questions, pinpointing

“pattern of meanings.” I kept an audio timestamp log sheet referencing specific moments I wanted to cut/splice so as to prepare shareable audio clips.

Initial data collection, outside of future member checking, was completed for this first group of participants on 24 April 2021 — the Focus Group (FG) session.

Repeat / G2B

During Summer 2021, as it was clear my research needed to continue into another academic school year since we were still awaiting approval from high school personnel, my advisor and I agreed to use the time wisely and work to recruit another university music undergraduate group for the upcoming Fall 2021 semester. This was different from our original plan because we had hoped to draw 8-10 participants. As described above, similar logistical issues presented themselves. However, two participants committed to being in the study, signed consent forms, completed the MBQ, and so began another round of pre-SSW interviews and SSWs during the month of October 2021 (2, 9, 23 October). In lieu of a fourth SSW, participants used this time to work on their individual Sound Piece (SP). Also, as one of the participants expressed mobility concerns, we as a group decided the Sound Walk (SW) could be done solo.

During our FG session, Participant 2 expressed their wish for a “larger group” and suggested that having connection with the other group could have allowed them to “kind of talk in between groups to see what the each group was doing, that would have been more collaborative and just like I think I would have learned a lot from other people and from what other groups were doing” (Participant 2, FG, Q7). I agree, and in the future I think this could be a significant way to gather ‘cross-talk’ about methods as groups share and compare their experiences.

PHASE 3

In January 2022, school boards granted permission for outside researchers, albeit remote only due to their social distancing policies. My partnering high school music teachers and I started scheduling dates for an initial meeting with their students so as to share details about the study and invite those interested to sign an LOI/C.

The first high school study group (G1A) commenced on 5 January 2022. After nine SSWs (~ 75 minutes each), G1A data collection ended on 4 April 2022. The second high school study group (G1B) started after spring break on 29 March 2022, and after nine SSWs (~ 60 minutes each), G1B data collection ended on 30 June 2022.

Validity

Validity refers to the way that a study “convinces others of its soundness” (Freeman, 2011, p. 544). It also situates learning as an act of reciprocity, “not for the purpose of verifying or solidifying...but to enrich the possibilities of living or lives well” (Ibid., p. 549). How to know whether findings are valid or trustworthy is an important consideration, particularly for qualitative research of this nature that deals with multiple ways of sensing, knowing, and being. To address this, I propose four methods of validation — processual validity, face validity, catalytic validity, and rhizomatic validity.

Processual Validity. To help establish validity, or trustworthiness (Onwuegbuzie & Johnson, 2006; Onwuegbuzie, et al., 2007), credibility, transferability, dependability, and confirmability (Aubin-Augier et al., 2008; Lincoln & Guba, 1985) and promote rigor (Golafshani, 2003), I engaged “processual validity” (Hayashi, Abib, & Hoppen, 2019). This approach “aims to have a temporal interconnected search for holistic explanations and emphasizes the need to link process analysis to the location and explanation of outcomes over the time” (Ibid., p. 102).

Processual validity allows for a recursive practice wherein validity is not an “isolated result” (Ibid., p. 103) attained at the end of a study, but is “something that is being constantly built throughout the research” (Ibid.).

Face Validity. Complementing processual validity, I employed “face validity” (Lather, 1986a; 1986b) or member checking (Guba & Lincoln, 1981). By creating spaces during the research data gathering process to face time with participants, I may better understand how they themselves make meaning from their experiences. Bradley (2006) says, “face validity [is] achieved by going back to the research participants with data and tentative results, to allow them to participate in the interpretation of the data, or to question the researcher’s conclusions” (pp. 100-101). Thus, a space of “negotiation” (Ibid.) is opened for back-and-forth knowings to manifest.

Catalytic Validity. This study sought to locate and understand transformative possibilities of human consciousness, specifically as they relate to creative critical acts. Because consciousness is a dynamic process constant reorientation is necessary. To help stay true to the dynamic processes at play, I relied on “catalytic validity” (Reason & Rowan, 1981, p. 240; Brown & Tandom, 1978). Lather (1986b) says, [Catalytic validity] re-orient, focuses, and energizes participants in what Freire (2005/1970) terms ‘conscientization,’ knowing reality in order to better transform it” (p. 67). Furthermore, drawing from Kincheloe & McLaren (2000, p. 297), Bradley (2006) asserts, “catalytic validity displays not only the reality-altering impact of the process of inquiry, but channels this impact so that research participants gain self-understanding and self-direction through participating in the research” (p. 100). (Re)orientation was integral to this study, particularly at specific moments; for example, in sound walking and

sound mapping activities. These activities literally represent shifting bodies in space and time, thus potentially shifting consciousness' and ways of sensing, knowing, and being.

Rhizomatic validity. To further take account of the complexities and nuances of consciousness and the fertility of co-constructed collaborative inquiry, I drew from “rhizomatic validity” (Lather, 1993, p. 680) as modeled by Erica Lenore McWilliam (1994, 1992). She developed a tripartite rhizomatic validity model that involved 1) an initial reflexive phase, 2) an empirical phase focusing on student-teacher constructions of teacher work, and 3) a final reciprocal phase designed as a reflection in action and an extended co-theorizing process that contested and reconstructed the researcher’s reading of the phase II data. Her validity was derived through an intentional practice of unearthing “discrepant data...facts unfit to fit categorical schemes” (Lather, 1993, p. 681). That validity may be achieved by allowing “contradictions to remain in tension, to unsettle from within, to dissolve interpretations by marking them as temporary, partial, invested...” (Ibid.) is in and of itself a signification of the paradoxical nature of human consciousness, and a “continuing investment in transformative praxis” (Ibid.).

Processual validity, face validity, catalytic validity, and rhizomatic validity are all consistent with the overarching conceptual and methodological framings and methods as they take into account human dynamism and further promote dialogical encounters. Through “reflexive journaling” (Capous-Desyllas & Morgaine, 2018; Stoecker, 2005) extensive member checking via (re)plays / (re)sharing of audio-visual data with participants for transparency (Gershon, 2020), and making and connecting meaning through “multiple senses and medium” (Capous-Desyllas & Morgaine, 2018, p. xv), this study engages validity as a way to “effectively enhance the understanding of the human condition and experience” (Ibid.).

To help establish validity, I searched for commonalities in language and phrasing across all methods paying particular attention to statements made in interviews and focus groups, as well as the written and audio journals participants shared at the end of the study. For example, as creative critical consciousness were under study, I sought out places where participants spoke to or exhibited signs of those terms, and/or others synonymous or suggestive of such (e.g. imagination, discover, curious, life-and-death, perceptive, aware, awake). This triangulation between data sources helped support emergent themes. When things were unclear, or I felt I was reading ‘wrong’ or pursuing something made solely from my own head, I reached out to participants for clarification.

One instance of this that is significant was my reading of what I sensed as an undergraduate participants’ hesitancy about sound based methods in music education scenarios. What I had sensed as skepticism, was actually a keen astuteness as to tensions that lay between musical thinking (as they had become accustomed) and sonic thinking. In their SNJ, they had written about a theory course where they “got to compose a piece based on methods [they] had learned” and how much they “enjoyed” that activity. In my email, I asked what specifically they found enjoyable, and how that may compare with sound methods experienced during the study. They replied,

I enjoyed being given creative liberty while still having a structure (set of rules) to work in. Also, I liked that I could put to use concepts we had learned during the course. It was a very well-structured assignment; we submitted a draft and received feedback before the final submission. It contrasts the sound-based methods because we were working within a specific framework of music theory and we were taught the concepts that we were to work with ahead of time. During the study, it was much more flexible, which sometimes

made it difficult to create music because I think each person was coming at it from a different angle/level of experience (for example, during the jam sessions). The sound-based methods could be done in a similar way, as long as a theoretical framework was established beforehand so the student would understand what elements to work with: pitch, beat, timbre, etc., and what the general outcome was supposed to be. Skepticism: I think so. What do you mean, exactly? Yes, I think what you write is accurate. I am hesitant about "sound education" being emphasized over classical or traditional music education. I think both have their place, and I would be sad to see one or the other disappear. (P2, G2B, Email Member Check).

Their sentiments speak to the need to ensure that sound methods, particularly from this study's findings with university music undergraduates, should design "frameworks" amenable to their musical training, while also engendering the kinds of educative space that may allow an expanding of conceptions around what constitutes music in relation to sonic phenomenon. For this participant, it was not so much the world of sound that was a creative challenge, as it was a feeling less comfortable recontextualizing and organizing sounds without an accustomed structure. Their statement also serves a useful critique on the ways these methods were used in this study to which more attention should be paid. Their statement also speaks to creativity literature around the importance of balancing "liberty" and delimitations (See Article 3).

Data Collection and Analysis | Pause

This concludes the data collection segment of the dissertation. Next, are Articles 1-3. Article 1 is a conceptual piece outlining ways sound has been discussed and used historically in music education and why current calls for a sound pedagogy warrant attention. Article 1 concludes with a curricular sketch centering, what I have called, *sonic lifeworlds*. Article 2

highlights how I practically applied the curricular sketch when working with 18 high school music students. Article 2 shares their reactions interacting with their sonic lifeworlds and points to pedagogical benefits and challenges sound-based thinking and methods offer. In similar fashion, as the methods used were essentially the same, Article 3 shares stories, reactions and responses from 6 university music and music education majors. While the benefits and challenges played out differently from the high school participant group, parallel themes and findings emerged.

Following Article 3, the dissertation picks back up with a summary of the data collection and then proceeds into an analysis of the data across the research questions guiding this study. Finally, the dissertation ends citing limitations and future research possibilities.

Article 1 | Sounding MusED: Sonic lifeworlds as a way of knowing and being

Abstract. Sounds are primordial phenomena shaping ways one comes to sense, know and be in the world. Scholars in the field of music education have recently rearticulated pedagogical possibilities of sound, citing creative and critical aspects that a thinking in, with and through sound may afford music teachers and their students (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). In this article, I engage with and extend these conversations suggesting a reorientation toward sound in music education spaces carries potential to catalyze *creative critical consciousness*. I also revisit mid-20th century articulations around sounds' pedagogical potential, highlighting parallels, patterns and paradoxes within pedagogical imagination and consciousness. Drawing from Rosa's (2020) theory of *resonanz* and insights from across the fields of archaeoacoustics, sound studies and sensuous scholarship, I suggest students' *sonic lifeworlds* are significant entryways for reorienting and recalibrating their relationship in/with/to the world — including ways of thinking and being musical.

Keywords: sound, creativity, critical pedagogy, sensuous scholarship

Introduction

Sounds are primordial phenomena shaping ways we come to sense, know and be in the world. Scholars across the interdisciplinary fields of *archaeoacoustics* (Eneix, 2014; Reznikoff, 2008; Kolar, 2018; Scarre & Lawson, 2006; Zubrow & Blake, 2006), *sound studies* (Augoyard & Torgue, 2005/1995; Bull, 2019; Eidsheim, 2015; James, 2019; LaBelle, 2010; Sterne, 2012) and *sensuous scholarship* (Howes, 2005; LeBreton, 2017/2006) have unearthed and articulated early and modern humans' proclivity for thinking in, with and through sound as a way of creating, critiquing and navigating identity, space, place, time and memory. Scholars in the field of music

education have recently rearticulated pedagogical possibilities of sound, citing creative and critical aspects that a thinking in, with and through sound may afford music teachers and their students (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017).

In this conceptual article, I begin by engaging with and extending these conversations suggesting a reorientation toward sound in music education spaces carries potential to catalyze *creative critical consciousness*. Creative critical consciousness is a recognition that the “essence of consciousness is being with the world” (Freire 2005/1970, p. 69). Being with the world is a phenomenological encounter and a method for moving through timespace interacting and enacting one’s “freedom to create and construct, to wonder and to venture” (Ibid., p. 68). However, it is not a solo trek, as creative critical consciousness also carries an understanding that to *be* is a generative process of becoming that can excite and engage “dialogue, reflection, and action” in/with the world — three core cyclical tenets of Freireian Critical Pedagogy — en route to transforming consciousness and effecting social change (Ibid, 100-104).

Next, I revisit mid-20th century curricular articulations around *sound, noise* and *silence* via manuscripts and classroom projects offered by R. Murray Schafer, John Paynter and Peter Aston, Gertrud Meyer-Denkman and Ronald Thomas (MMCP). These composers and music educators across Canada, England, Germany and the United States, respectively, represent a creative music movement within the field — a movement I frame through Halifax-based social activists and social movement theorists Max Haiven’s and Alex Khasnabish’s (2014) concept: *radical imagination*. I pinpoint two parallels between the movement’s work then and current music education aims as it relates to 1) *creativity* and *criticality* and 2) *cultural heritage* and *cultural production*.

Drawing upon the creative music education work of Nigerian master drummer, composer, ethnomusicologist and music teacher, Meki Nzewi, I discuss what I see as parallels, patterns and paradoxes between the mostly white, mainly male creative music movement members, the move towards sensuous and holistic ways of knowing and being musical, and Nzewi's 'return' to African Indigenous Knowledge Systems as it corresponds to "De-sacralizing the European" (Rinsema, 2018).

Finally, I suggest a reorientation toward sound specifically an attention to *sonic lifeworlds* offers a significant entryway for reorienting and recalibrating one's relationship in/with/to the world — including ways of thinking and being musical.

Sound in current MusED Literature

Scholars in the field of music education have recently spoken to pedagogical and curricular possibilities of sound, citing the potential value a *sound education* may offer in widening students' conceptions of music, musical identity and musical performance by facilitating creative and critical engagement with their worlds — musical and otherwise. Calling attention to sounds' ephemeral qualities, Abramo (2014) proposed a music education that "resonates" wherein students may practice sharing and entertaining multiple perspectives — working towards a "fluid sense" of listening, knowing and being in the world. Continuing his discussion considering ways sound might be used methodologically, Abramo (2015) says, "Soundscapes are political spaces rendered through sound. Approaching classrooms and other places of learning as soundscapes allows researchers to attend to the sounds produced in that environment and to generate sociological explanations" (p. 279).

Such conceptualization resonates with Iranian born anthropologist, feminist, queer and critical race theorist, Roshanak Kheshti's (2015) assertion that "Sound is a social formation that

is constituted by struggle and struggled over...Sound's form is a hermeneutical tool; a wavy and reverberant materiality, it reflects, is productive of, and also engenders through resonance" (p. 111). Schools, as sonic sites for generating sociological explanations has been sounded in the empirical studies of scholars outside of music education such as, Boni Wozolek (2018), Amanda Black and Andrea Bohlman (2017), Jon Wargo (2018) and Walter Gershon (2020) — all who explored the acoustic ecologies of high schools and universities, revealing the sonics of racism, genderism, sexism and socio-economic exclusionary policies and practices students experienced.

Taking a Cageian approach to sound, Hill (2018) advocates for music teachers to develop "sonic curiosity" (p. 51) and reimagine their roles as "teachers of sound" (p. 60). He says, "students should...learn how to listen more attentively to the ambient sounds of their world...[and] deepen and diversify their meaningful relationships with sound" (Ibid.). Going one step further, Recharte (2019) suggests a "sound education" and "listening and sound-making as alternatives" to the "premium that is put on *Music*" (p. 70 *Italics original*). Specifically, a premium on prized ways of knowing and being musical via the values and customs of the so-called canon espoused by a nineteenth-century classical music tradition. Echoing this sentiment, Thibeault (2017) suggests, "sound studies may yet prove helpful in resolving some of the primary challenges in our field, particularly the call to broaden existing conceptions of music education" (Ibid, p. 80). Broadening existing conceptions of music education starts with reorienting one's relationship to music. Sound art philosopher, Cristoph Cox (2018) notes,

Our ordinary relationship to music is one of unthinking familiarity — the apprehension and production of perceptual and affective cliches, ready-made forms, conventions, and cultural associations that prevent us from hearing anything else. In short, for the most part, music operates for us according to the model of recognition and does not provoke

us to think or ask ‘what is this sound?’ and ‘what are its conditions of existence?’ (p. 137)

A music education that resonates is one that promotes a practice of what Cox (2017) calls *sonic thinking*, which

begins, not from *music* as a set of cultural objects but from the deeper experience of *sound* as flux, event, and effect...[and] present us with an *ontology* that unsettles our ordinary conception of things. (pp. 99 & 100 Italics original)

In this unsettling, music educators may address some of the primary challenges. One such challenge is striking balance between *cultural heritage* (i.e. treasured canonical works and traditions of the past) and *cultural production* (i.e. focus on students’ original creative works). Cultural production is paramount for sustaining the kinds of educative spaces whereby students’ creative and critical voices can be heard. Gaztambide-Fernández (2011) asserts,

By putting students own musical creations at the center of the process this production approach rejects the premise that music education should be about reproducing the work written by other (usually dead, white, and male) composers whose work is deemed legitimate music. (p. 35)

Cultural production opens a space for students to explore creating music on their own terms — literally with their own sounds, from their sonic lifeworlds. In such agency, they may also address some of the sonic disturbances encountered and experienced. This is because

It is cultural production—the active engagement in reorganizing the symbolic content of our social being—that oppressive boundaries can be challenged in the search for social justice. This in between process requires the *inner* engagement with direct experience and the production of new *outer* representations. (Gaztambide-Fernández, 2007, p. 36 Italics original)

Parallels from the Past: Creative Music Education | Sound in unsound times

There is something telling about when and in what ways historical-social-cultural rhythms pulse in and out of pedagogical imagination and consciousness. Current global unrest wrought by the pandemic along with steadily growing social-political, institutional and systemic inequities warrant attention to thinking and doing things other than normal. The pandemic revealed ‘normal’ carries implications. The pandemic — while real, relevant and deadly —spoke to larger issues around human greed, selfishness, consumption and unsustainability. The pandemic amplified symptoms of distortion already pervasive such as xenophobia, healthcare inequity, food insecurity and housing shortage. COVID-19 also impacted how music educators across PK-16 spaces navigated and negotiated their classroom and curriculum. *In what ways may a music teacher and their students address such things? Should a music teacher address such things? Or, is learning and making music salve enough?*

The social-political backdrop for the creative music movement was not dissimilar to current affairs. Two post world-wars, Russia’s Sputnik satellite launch into an elliptical low earth orbit, the onset of the Cold War and the ushering in of social and cultural movements calling out systemic deficiencies, hypocrisies and dangerously deadly inequities dealt and felt upon the bodies of those whose race, gender, sexuality or class were deemed somehow different, Other — all of this and more was the backdrop for the mid-20th century creative music movement in Canada, England, Germany and the United States. Indeed, Schafer (2005/1995) recalled, “In the 1960s many of us felt that the whole sensorium of the Western world was in upheaval” (p. xi).

Current sentiments may be felt and expressed given daily feeds of global news and world reports. There is a general sense of unrest and discord across the planet that can without much

effort ease into desensitizing — or, as Michael Bull (2000) would say, “sounding out the city” effectively covering ones ears to the world, places, people and things perhaps too much to hear.

In response to feeling that the whole sensorial apparatus of society was in chaos, Schafer, and other creative music movement educators articulated the significance sound could play in reorienting one’s relationship to the world. Thus, sound entered pedagogical imagination and consciousness as a response to the “trending” of society at that time (Schafer, 1977). Tuning in sound vibration was understood to be a musical endeavor as it opened a sonic field for music students to entertain any sounding phenomena. Tuning in sound vibration was also a way to literally feel a connection to/with the world even in its unsoundness as such tones too carry meanings and potential for ways of thinking and being musically creative and societally tuned in.

The creative music movement laid a foundation for a sound education.³ The work of the creative music movement foreshadowed many of the concepts around critical, relevant, responsive, sustaining and socially just pedagogies that seek to invite students’ lived experiences and ways of knowing and being into classroom dialogue en route to elevating consciousness about social-political structures shaping their world so that they may respond in ways that are meaningful to them and their communities (Benedict et. al, 2015; Benedict & Schmidt, 2014; Freire, 2005/1970, Greene, 1995; Giroux, 2015).

This movement also paved the way for the important work in informal/non-formal music pedagogy whose insights reinforce and validate that one’s connection to music is culturally and personally specific and produced, and the ways that one comes to be musical is not universal

³ I recognize that creativity in music education includes a multitude of work from many countries, teachers and scholars. For the purposes of this historical overview, I focus on specific literature and its’ progenitors taking place during the mid-20th century that speak directly to sound as a way of sensing, knowing and being in the world.

(Green, 2008/1998). Ties to the cognitive, embodied and sensuous ways of knowing the world via sound and music is another feature the creative music movement elucidated through its experimental and exploratory projects, which find resonance with multimodal pedagogies for embodied listening, music cognition and phenomenological studies of learning and becoming (Ceraso, 2018; De Souza, 2017; De Robertis, 2017).

Aspects of this movement accentuate the value of integrating multiple art practices (e.g. visual, literary, dance, drama) including audio recording technologies, thus highlighting the multisensory ways one comes to construct meanings from the things they encounter in the world. Indeed, as Paynter (1992) noted, ‘the techniques we developed paralleled those that had already been successfully demonstrated by visual teachers’ (p. 5).

I situate the creative music movement of the mid-20th century as a social movement within music education, specifically one grounded in what social movement activists/scholars Max Haiven and Alex Khasnabish (2014) call *radical imagination*. For them,

The radical imagination...evokes in us the notion of the capacity to think critically, reflexively and innovatively about the social world...the radical imagination is the ability to imagine the world, life and social institutions not as they are but as they otherwise might be. The radical imagination is about drawing on the past, telling different stories about how the world came to be the way it is, and remembering the power and importance of past struggles and the way their spirits live on in the present. (pp. 3-4)

The creative music education movement was responding to a then contemporary view wherein creativity, innovation and personal expression were seen as “alternatives to the status quo of music education” (Thomas, 1970, p. vii). Status quo music education, as members of the creative music education saw it, put little attention on personal creativity, instead offering by rote

uniformity. Or, as Schafer (1976) put it, “our system of music education is one in which creative music is progressively vilified and choked out of existence” (p. 41). Part of this tension, as discussed below in Parallel 2 has to do with what I see as curricular imbalance between *cultural heritage* and *cultural production* — still of concern in music education conversations today.

The first overlapping parallel between then and now has to do with creativity and innovation. Following Parallel 1, highlights of Canadian composer music educator, R. Murray Schafer’s pedagogical piece are presented.

Parallel 1 | Creativity and Innovation

Creativity, as Finnish music educator Sari Muhonen (2010) quizzically asks, “a slippery slogan” (p. 86)? Yes, it is! And, creativity becomes even more precarious when caught in the throes of political agendas and misaligned fears and threats to national security as it was in the mid-20th century. This was particularly noticeable in the United States’ reaction to Soviet space advancement. On Friday evening, October 4, 1957, Russia launched the first artificial Earth satellite, *Sputnik*, into orbit. Recalling creativity’s initial intent as a “social good,” Benedict & Schmidt (2014) note,

Ten years later, however, the national panic brought on by the Soviet launching of Sputnik refocused creativity and innovation as technological advancement where “public education was charged with producing citizens with the knowledge and skills the nation needed to build and maintain its defense establishment and to maintain the nation’s economic competitiveness” (p. 80; See also Johanningmeier, 2010, p. 350).

Of point here is that the national panic and onslaught of geo-political tension between the United States and the Soviet Union and their respective allies (i.e. Western Bloc and Eastern Bloc) as a result of *Sputnik’s* successful three month orbit was unwarranted. Indeed, President Eisenhower,

had left for a weekend of golf at Gettysburg that Friday morning and let Press Secretary James C. Hagerty and Secretary of State John Foster Dulles “handle the initial administration response”

(Divine, 1993, p. xiv.). Hagerty and Dulles

quickly agreed” to say that *Sputnik* came as “no surprise,”...decided not to mention an earlier U.S. proposal for the peaceful use of outer space in order not to “appear scared”...[stated] the president was being kept informed of *Sputnik* as a matter of “great scientific interest”...[and] When reporters asked if the White House was upset that Russia had beaten the United States into space, Hagerty replied, “We never thought of our program as one which was in a race with the Soviets.” (Ibid. Italics original)

However, “public reaction was very different” as articulated by the editors of the *New Republic*, who

compared *Sputnik* to “the discovery by Columbus of America” but feared that it was “proof of the fact that the Soviet Union has gained a commanding lead in certain vital sectors of the race for world scientific knowledge and technological supremacy.” (Ibid. pp. xiv-xv, Italics original).

National panic gave way to responses such as Dr. Elmer Hutchinson’s, director of the American Institute of Physics, who said, “the nation’s youth must be taught to appreciate the importance of science or the United States’ way of life is doomed to rapid extinction” (Abeles, 2010, p. 4). National panic also gave way to U.S. senate and congressional reactions, particularly those from “Ardent Cold Warriors” who felt the Eisenhower administration “had not spending enough on national defense” (Divine, 1993, p. xv.). Democrats and Republicans began to “play down the significance of Sputnik” calling it “a great propaganda stunt...a nice scientific trick...a silly bauble” (Ibid.). And, national panic combined with political pressure prompted President

Eisenhower in 1958 to enact the National Defense Education Act (NDEA), “which was designed to reform the educational system in the United States to meet this new challenge” (Abeles, 2010, p. 4). Thus, a precedent with spiraling effects was set into motion wherein public education and curriculum were charged with operationalizing clandestine political agendas (e.g. Reagan’s *Nation at Risk*; Clinton’s *Goals 2000*; Bush’s *No Child Left Behind*; Obama’s *Race to the Top*).

And, where does creativity sit in all of this? In a compromised position, such that any educational work centered in/around creativity, innovation and imagination must also invite and convoke criticality as these concepts have been mis/used since the mid-20th century to connote notions of social, political, technological, economic and educational ‘progress’ — a concept meaning different things for different people and with differing sometimes opposing aims. ⁴ Max Haiven (2014) posits,

Since the 1970s and the dawn of the neoliberal period, capitalism has entered a new amplification of consumer individualism, commodification, ideology and adaptability...Concepts like education, the imagination, the commons, creativity, memory and the public have been largely brought into the conventional capitalist imagination...[and] have become key props in the capitalist melodrama (pp. 9-10).

Such ‘enclosure’ is echoed by Benedict & Schmidt (2014) who contend,

The familiarity of creativity and innovation as the story of us has indeed made our relationship with those two terms quite problematic, often drowning criticality, consciousness, and responsibility...we must ask ourselves how to re-engage

⁴ Camilla Nelson (2018) traces the taut (and taught) “rhetoric of creativity” in her piece, *Beyond Prometheus: Creativity, Discourse, Ideology, and the Anthropocene*; Nadine Kalin (2016) argues to “re-appropriate creativity for education” in her piece, *We’re All Creatives Now: Democratized Creativity and Education*. Both scholars’ work are instructive when considering creative critical consciousness as articulated in this study.

with these terms in the twenty-first century. (p. 80) ⁵

When considering ways to reengage these terms, querying “Can creativity ensure criticality?” (Allsup, 2022) particularly in open-concept design curricula via improvisation and other creative music activities, is one way to articulate the fraught relationship between these terms. In this study, catalyzing *creative critical consciousness* was/is an aim. Grappling with what that means, could mean and/or does not mean has necessarily resounded throughout my headspace. While such assurances are never available in pedagogical imagination and consciousness, I believe what we can secure, as many music educators are doing in various ways, is to ensure commitment that any creative work students involve themselves offers multiple, multimodal and multisensorial ‘entryways’ into discussions and reflections about how and in what ways their creative works elides with/into their lived experiences. To paraphrase Rosa (2020), if curricular activities do not ‘speak’ to students’ intellectual, emotional, social and spiritual being, then their inclination to use their voices to ‘speak back’ is diminished. If students do not feel ‘touched’ by curricular material, then their ability to ‘touch back’ is invariably nil. Thus, a music education that resonates are those conceived and enacted not in stances, as these easily lead into dichotomized distractions, but in pivots as it in such (re)positioning wherein oscillation and revolution are possible.⁶

Sound is one such entryway.

⁵ Aspects of the ‘story of us’ are delineated in Article 2.

⁶ Norwegian music education scholars Øivind Varkøy and Petter Dyndahl (2022) offer an instructive dialogue about what I have called dichotomized distractions in their piece, *Do we all have to be “leftists”? A Dialogue about Antagonism and Agonism in Music Education Research*. I argue that such antagonisms in some critical pedagogy literature within the field of music education may deter some music teachers from engaging in the beautiful and life-changing work such pedagogies can educe as it is sometimes easier to cite scheduling constraints or succumb to the “TMI” effect (Taruskin, 1995, p. 6).

Creative music education movement | Part 1 | R. Murray Schafer

R. Murray Schafer's (1933-2021) lifework as a composer and music teacher offered multiple reasonings and examples of how music teachers might go about facilitating students' capacities to hear and respond to their world creatively and critically. By opening their ears to the sounds at play in their environments, Schafer sought to excite an aural sensibility in students wherein they could reexamine and reorient their relationship to music and musicianship and also expand their curiosity, imagination and play as creative beings via sonic encounters experienced in the everyday day world. Schafer's seminal work, *The Soundscape: Our Sonic Environment and the Tuning of the World* (1977) is recognized as a significant contribution setting the stage for scholarship in *acoustic ecology* as carried on by Steven Feld, Bernie Kraus, Heidi Westerkamp and many others directly and indirectly associated with World Soundscape Project at Simon Fraser University in Vancouver, British Columbia; and *sound studies* as sustained by Michael Bull, Cristoph Cox, Veit Erlmann, Nina Sun Eidsheim, Ana Maria Ochoa Gautier, Casey O'Callaghan, Jonathan Sterne, Jennifer Lynn Stoeber, Roshanak Kheshti, Salomé Voegelin, and many others whose profound scholarship has found a voice in this inter/intra/cross disciplinary field.

What is also of import and especially useful when thinking through a sound pedagogy is Schafer's, *Creative Music Education: A Handbook for the Modern Music Teacher* (1976). Originally published as a series of five booklets between 1964 and 1975, this eleven-year archive includes a philosophical basis for a sound pedagogy and nine transcribed classroom sessions where we can witness Schafer and his students using sounds for critical discussions and creative play via group improvisation and collaborative composition.

An expanded version of these booklets and transcriptions were republished in *The Thinking Ear* (1986) and form a definitive compendium of Schafer's insights and work in music education. A central premise of Schafer's educational work was that students already come to the classroom with embodied and creative knowledges that through schooling, particularly music schooling, can get subjugated to specialization and by rote replication because "our system of music education is one in which creative music is progressively vilified and choked out of existence" (Schafer, 1976, p. 41). Thus, for Schafer, "One of the worst things that can happen to us in life is to go on doing things without knowing what they are or why we are doing them" (Ibid., p. 7). Like Sherill Rutherford (2014), I agree that Schafer's pedagogical philosophy and practices foreshadow the kinds of teaching values and learning theories currently driving initiatives for inclusive and diverse educational experiences, and thus find relevance for 21st century music teachers.

Creative music education movement | Part 2 | John Paynter and Peter Aston

While Schafer was working through sound pedagogy ideas in Canada, composers and music educators, John Paynter (1931-2010) and Peter Aston (1938-2013), were active in the U.K at the University of York designing classroom projects exploring sound as a vehicle for creative and critical music making. Their work combined the musical idioms of mid-20th century composition (e.g. extended technique, musique concrète, aleatoric music, electronic music, alternative notation) with a pedagogical philosophy centered in personal expression and "the freedom to explore chosen materials" (Paynter & Aston, 1970, p. 7).

Materials chosen for the thirty-six classroom projects presented in *Sound and Silence: Classroom Projects in Creative Music* (1970) included sounds found in the natural world — the pattern and rhythm of everyday sonic encounters. In *Project II: Patterns in Nature*, Paynter and

Aston invite students to traverse their environment and “go out and find one natural object which [they] like” (p. 87). Students then “work the pattern” through a visual art representation (i.e. preliminary graphic notation) and then create complementary rhythms and melodies with musical instruments.

The questions they pose for students to think through en route to their original compositions elucidate the creative and pedagogical value of integrating visual art with musical art, and offer a working language model with which to think through multisensory perception that offers students opportunities to practice a deliberate engagement and response to the world around them. Paynter and Aston’s work is grounded in the notion that, “The value of anything we learn in school lies in the extent to which it helps us respond to the world around us” (p. 2). The questions they ask students to consider are,

Does your visual rhythm suggest an organization of sounds and silences? Is there an immediate impression of the *kind* of sound? Which instruments would you choose? Does it also suggest a way of using these sounds? Are there wisps of sounds, delicate lines weaving here and there or fanning out from a central point? Are there strong, firm lines moving on ponderously? How are these directional forces grouped? Is there some overall arrangement, such as a spiral, which might provide a skeleton form for the music. (p. 89 Italics original)?

These questions invited students to connect with sounds on visceral, conceptual and aesthetic levels. Visual arts, poetry, photography and patterns or rhythms of nature all became material for critical thinking and creative music making. Arts integration or mixed media opened possibilities to reengage sounds on multiple levels of consciousness as each art form carries its

own aesthetic and meanings. Arts integration accentuates the multisensory aspects of being and knowing, thus cultivating space for inclusion and diversity.

Smith's (2014) work with six university music education and performance undergraduates elucidates ways expressive arts integration may be used to facilitate group improvisation, individual reflection and expansion of consciousness. Of particular interest, as it relates to this study and to Parallel 2 below, are the one hundred plus instances the term *value(s)* enters Smith's work. Specifically, values oriented around external and internal ways of knowing and being musical as a result of "classical training" (p. 230). Smith also notes that, "due to classical performance traditions, musicians are not seen as equal co-creators with the composer" (p. 12). Smith's use of "sound making" via improvisation activities facilitated space for such values to be re-evaluated. Centering participants' creative works also addressed the tension between cultural heritage and cultural production.

Creative music education movement | Part 3 | John Paynter

Paynter's follow up publication, *Sound & Structure* (1992), spoke to some of the criticisms and challenges that he and Aston's earlier work presented, offered more structured protocols for music teachers and their students to practice and also reaffirmed a commitment to providing creative compositional spaces for students to deepen their relationship to music and to the world of sound. Starting with silence, something reminiscent of Pauline Oliveros' *Sonic Meditations* (1974), Paynter's opening classroom project asked students to "sit very still" and aurally scan their environment paying particular attention to the timbral and temporal-spatial aspects of sounds interacting with and against each other; specifically, the play between "natural sounds [and] sounds generated from human activity" (p. 33). It is in the interactions between

sounds where “dynamic relationships” occur along, what Paynter called, “the four corners of musical experience — sound, time, ideas and technique” (Ibid.).

Paynter’s interest in the interactions between sounds stems from his pedagogical perspective that by “Coming to understand the morphology of everyday sounds around us, by imitating them carefully and building up textures of the imitated sound, is an important step towards evolving and developing musical ideas” (p. 35). From a compositional perspective, Paynter, similar to Aston and Schafer, articulated a “network of interaction” between sound, meaning, structure, technique and artistry. At the intersection of this network were the acts of “responding” and “realizing” creative composition projects through an overall framing of “education” and “heritage” (pp. 23-24).

What is revealing in Paynter’s diagrammatic and relevant to this study is the seeking of balance between *cultural heritage* and *cultural production*. In what ways can an art discipline like western classical music hold on to time treasured works valuing them for their specific cultural artistry and aesthetic without Idealizing and monumentalizing them into a Goehrian imaginary museum of “permanently existing creations of composers/artists” (Goehr, 1992, p. 174) whose “magical power” has “sealed” (Ibid, p. 1) stamped and delivered a historical artefact that effectively stands in the way of a large number of current music students’ perceptions about themselves as also being active agents in the art-making process? This seemed a dilemma and an opportunity for composer-educators like Paynter, Aston and Schafer and something they worked to address in their creative music projects. They addressed it through an orientation towards everyday sounds including noise, silence and music.

Parallel 2 | Cultural Heritage and Cultural Production

In this in-between space of *cultural heritage* and *cultural production* what can go unrecognized, particularly in specialized courses of musical training, is what composer, music theorist Walter Piston (1894-1976) prefaced in his classic and widely-used college theory text, *Harmony*,

There are those who consider that studies in harmony, counterpoint, and fugue are the exclusive province of the intended composer. But if we reflect that theory must follow practice, rarely preceding it except by chance, we must realize that musical theory is not a set of directions for composing music. It is rather the collected and systematized deductions gathered by observing the practice of composers over a long time, and it attempts to set forth what is or has been their common practice. It tells not how music will be written in the future, but how music has been written in the past (Piston/ DeVoto, 1978/1941, p. xix).

Recognizing said “fundamentals” are nothing other than codes, collected and systematized deductions designed to manipulate sonic material within a specific set of tones through a specially manufactured temperament system, is one step in addressing canonic myths. Such a recognition could also debunk some of the identity myths Piston infers that go along with measuring against an Ideal of “perfection” wherein notions of *talent*, *genius*, etc. can get in the way of students’ creative expression through improvisation and composition (See Schmidt & Edwards, in press).

Roberts (1991) spoke to such when he said, “There are clear signs in music school of a stratified knowledge where types of music and involvement in these various types of music have an almost precise hierarchy” (p. 1). Reorienting one’s relationship to music and music making

via sound could also facilitate what Schafer called “ear cleaning” wherein students turn their ears to hear, listen and be present in their own lived and un-idealized soundscapes.

As composers and teachers, Schafer, and Paynter and Aston were well-versed in traditional western methods of composition via music theory. Music from the Common Practice Period of Western Europe (~ 1600-1910) was part of their musical training. However, through their pedagogical philosophy and practice, they demonstrated the desire to engage students early in the creative process. Paying close attention to everyday sounds and using these as material to think through compositional technique and artistry offered a way in to other ways of thinking and being musical.

Creative music education movement | Part 4 | Gertrud Meyer-Denkman

Complementing the work of Paynter and Aston, was German composer and educator Gertrud Meyer-Denkman (1918-2014). Her text, *Experiments in Sound: New Directions in Musical Education for Young Children* (1977) laid out a philosophy and practice of creative music making informed by emerging findings in psychological research analyzing children’s perceptions of sound, space, and time, and was adapted for use in English Schools by Elizabeth and John Paynter. Like the Paynters, Aston and Schafer, her work was also centered in composition and creative music making and started by using everyday sounds as an entry point. Connecting students to their sonic environment was a significant aim for Meyer-Denkman. She says,

We must help children to come into a lively contact with their environment. Their experiences should involve materials objects, instruments, noises of daily life... This means encouraging children to discover sound as ‘raw materials’. Let the child make sounds, listen to them critically and use his inventive intelligence to produce

different ‘gestures’, figures and structures of sound (Meyer-Denkman, 1977, p. 2).

For Meyer-Denkman, attending to everyday sound was “basic musical training” and a way to practice listening “discriminately” so as to develop children’s sonic perceptivities. Because she worked with children as young as three-and-a-half years old, Meyer-Denkman also observed that children’s early “utterances” carried meaning and “offered a wide range of exciting sound-making possibilities” (p. 5). These “sound expressions” as she called them constitute “signals of a child’s experience of reality and of his self-awareness...[and]...whether by movement, drawing, sound or word — he shows the essence of things as he as experienced it” (Ibid.).

Thus, in the early stages of a child’s music education experience, Meyer-Denkman proposes teachers listen to the student, suspend “traditional forms” of music with which they are familiar and “not attempt to force [children’s] discoveries into the pattern of [the teacher’s] own musical concepts” (Ibid.). In other words, music teachers should not let their conceptions of what they have come to know as music and music making get in the way of their students coming into their own knowing of what music can mean to/for them.

Such a practice necessitates a reorientation around the “concept” of music and noise.

(Re)Orienting Noise

In part, this requires reorienting ears and mind to sounds that may be considered “noise” — a term too often associated with an unwanted-ness due to a perceived unpleasantness. Such “disturbances” can connote a lack of order; in this sense, order is strongly associated with that which becomes “ordinary” or in line with coordinate systems and ways of thinking and being. How one comes to conceive and construct their world through the spectrum of noise and silence

has ramifications for how public and private spaces are demarcated, traversed and felt, and how policies are implemented and enforced (Blessner & Salter, 2007; Sylvanus, 2013).

Xochitl Gonzalez's article in *The Atlantic*, *Why Do Rich People Love Silence? — The Sound of Gentrification is Silence* speaks to the ways “sonic landscapes” are enforced upon racialized and poor people “effectively codifying an elite sonic aesthetic: the systematic elevation of quiet over noise” (*The Atlantic*, September 2022). Enforcement of this sonic aesthetic is often handled by local police, as in the case of the New York City Police department and the Department of Environmental Protection's, “Operation Soundtrap” enabling the city to “take appropriate action” (<https://www.ojp.gov/pdffiles1/Digitization/145550NCJRS.pdf>). Such action has led to escalations in violence and death (Atlanta, 2019, 2022).

Noise is a socially constructed term carrying significant meanings in educational environments, especially when construed as “chaos” it can point to a perception that students are disruptive lacking discipline or that a teacher has lost control and classroom management (Gershon, 2020; Younker & Hickey, 2007). Aural surveillance systems and youth alarm deterrents like the Mosquito Teen Repellent (aka “The Bug”) developed by South Wales engineer, Howard Stapleton, wherein decibel levels are piercing to persons under 25, have found their way into schools and classrooms and are a far cry from creating equitable, diverse and inclusive spaces as the targets are typically marginalized populations of students dubbed “unruly” “too loud” i.e. “Students of color...the Black kids” (Gershon, 2018, pp. 73; See also Akiyama, 2011; Gallagher, 2011).

A 2021 report by the committee on culture, science and education at the Council of Europe cite the “acoustic pain” felt by teens, and called for the gadget to be banned stating the device is “highly offensive”, could breach human rights and is potentially discriminatory against

children (<https://sciencebriefss.com/innovation/the-bug-alarm-might-be-breaching-your-human-legal-rights/>). In some cases, teens are rebelling by repurposing the repellent to use as a ringtone on their mobile devices so that classroom teachers cannot hear when text messages are being sent during class time (<https://www.npr.org/2006/05/26/5434687/teens-turn-repeller-into-adult-proof-ringtone>)

Controversies surrounding this device highlights the role sound plays in power differentials amplifying Roshanak Kheshti's (2015) notion that "sound is a social formation that is constituted by struggle and struggled over; one that is both overdetermined semantically and yet manifold in its semiotic possibilities....[bringing] producers, and its listeners...in collisions with productions of and absorptions of sound..." (p. xx).

Creative music education movement | Part 5 | Ronald Thomas (MMCP)

Noise, specifically in music teaching and learning spaces, was also addressed in the The Manhattanville Music Curriculum Project (MMCP) — a major creative music education initiative in the U.S. from 1966-1970 (Moon & Humphreys, 2010). The founder and director of the project, Ronald B. Thomas noted, "Free exploration of sound inevitably includes what to an outsider sounds like noise. It must be understood that noise (creative fallout) is essential to and part of the creative process in music (MMCP Final Report, 1970, p. 236, Original text). Thomas went on to describe various creative music making scenarios that were "noisy" and for some school administrators needed explaining.

He and his colleagues observed that, while noise may have been misunderstood and heard as distraction, it had "little effect on the students' ability to work productively" (Ibid, p. 105). Younker & Hickey (2007) echo this sentiment showing the importance of creating space for students to enter into what might be perceived as "chaos" as they work to make sense of sound

and musical material. In their case study, “what evolved was organized chaos generated by the students without interruptions by the teachers; and as a result, students constructed their own environment...It got noisy, but they were improvising together” (pp. 217, 220). Younker & Hickey also had to reassure an outsider that all was okay; in this case, “the security guard” (p. 217).

Such noisy allowances for personal creative expression is important in all learning environments. However, working with youth in urban music settings whose home and street voices may be different from the expected norms and prescribed ways of being in school and who are often silenced due to this, it is imperative for teachers to not fall into a noise equals non-attentiveness trap as this can be read as a microaggression at best, or at worst, outright racism (Recall, Gershon’s discussion on the Mosquito alarm above).

In Thomas’ (1970) MMCP final report, *Synthesis*, he footnotes American educator John Holt’s (1923-1985) “cello experiment.” Without telling the students what the instrument was or how to play it, Holt let them “mess about” in their “discovery process” and before too long their explorations allowed them to hear and see the connection between the bow and the strings, and they “grasp[ed] the basic idea” of how to play the instrument (p. 237). Holt (1995, 1967) notes that in contrast to a “trained scientist” (or trained music teacher) seeking solutions whose aim is to “cut down the noise, the static, the random information...a child is used to getting his answers *out of the noise*.⁷ He has, after all, grown up in a strange world where everything is noise, where he can only understand and make sense of a tiny part of what he experiences” (p. 50, Italics original). Indeed, “The true ‘rudiments’ of music are to be found in an exploration of its materials — sound and silence” (Paynter & Aston, 1970, p. 8). Understanding noise in this

⁷ Article 2 discusses noise further in relation to a participants’ comment about going outside “to get some noise” and elucidates the ways noise carries meanings.

context can relieve some of the tensions and stereotypes surrounding its meanings, and meet students wherever they may be along the spectrum of noise, silence and music.

While it is true Schafer, the Paynters, Aston, Meyer-Denkman and the MMCP collective were active as composers and music teachers, and thus had a keen interest in ensuring young people developed ears and had access and appreciation for the new “difficult” (Meyer-Denkman, 1977, p. 1) music being composed during this time, that was not their sole intent. And, while it is also true that the language they used in describing their philosophy and practice did not maybe sound the same as the language of critical pedagogies do today, it is evident to me from their prefaces and project aims and guidelines that such intention was present. For these composer-educators, connecting students to the sounds at play in their environment was a creative and a critical endeavor to facilitate ways for students to respond consciously to their world. Meyer-Denkman is explicit in this aim,

A child must learn to come to terms with the cultural and social environment he lives in. [They] can only go through the process of socialization if certain faculties are developed, that is, when he is encouraged and enabled to respond to [their] cultural and social environment in a conscious and critical way. (Meyer-Denkman, 1977, p. 1)

Paynter & Aston echo,

Investigating our environment brings us face to face with wonder and excitement of discovery...Education should make us alive to what is happening around us and aware of our potential as human beings. (Paynter & Aston, 1970, pp. 2-3)

And, it was Schafer’s (1977) overarching question, “What is the relationship between man and the sounds of his environment and what happens when these sounds change” (pp. 3-4)? that inspired his life’s work. Through his analyses and reflections, he came to an understanding that

“the general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society” (Ibid. p. 7).

It is such trending, or *soundcurrents* — *sounds streaming through spaces, places and contexts, shapeshifting in and out of sync en route to connections and meanings made* — this study set out to explore.

Key features of the creative music movement

In summary, the creative music movement of the mid-20th century is instructive in thinking about how, and in what ways a sound pedagogy might sound and look like in the music classroom today. While the creative music movement was an indicator of critical and socially just pedagogies aiming to invite students’ real-world experiences and ways of learning into the music classroom space, it was also a product of its time with its own social-cultural baggage, and thus not without criticism. Indeed, the very word “creativity” in the creative music education movement requires continual reflection (Finney, et. al, 2021). While the creative music movement did present innovative ways of approaching music and music making via sound it did so from a mostly western classical music perspective. Paynter & Aston’s (1970) accompanying discography exemplifies this (pp. 344-349).

The creative music movement 1) showed the significance sound plays in shaping ones world, 2) opened gateways for improvisation and composition via everyday sounds, 3) reconnected other art disciplines opening space for multisensory, cognitive and embodied ways of knowing, 4) fostered attentive and deep listening, 5) highlighted the tension and balance between cultural heritage and cultural production, 6) nurtured spaces for group improvisation

and collaborative composition, 7) helped debunk creative identity myths, and 8) addressed distinctions between sound, noise, silence and music.

Paynter's attention to *heritage* and *education* suggests that education for him was an act of *educare* — a creating of conditions wherein students' internal and embodied ways of knowing and being were valued such that they could be educed into further exploration. Leading out also implies establishing an orienting oneself in relation with/to the world and the things. What it does not imply, as heritage does, is a patrimony that necessarily starts externally, and has generally gone through a lineage wherein questioning validity or value may come off as sacrilege. — a notion expanded on next as it relates to Meki Nzewi.

Paradox | African Indigenous Knowledge Systems | Embodying Sound

While creative music education advocates were designing and implementing curriculum in the U.S., Canada, Germany, and the U.K., Nigerian master drummer, composer, ethnomusicologist and music teacher, Meki Nzewi (1938- present) was working to redress some of the ill effects western classical music education left behind in his country; specifically, related to siloing and sacralizing. Siloing, in the sense of separating the Arts (visual, literary, dance, drama). Sacralizing, in the ways western European art music's hierarchy of musical styles and ways of being musical impacted African cultural life. For Nzewi (2006), "The musical arts was a composite thought system that was created and experienced in holistic terms as integration of music, dance, metaphysical/mythical/social drama and the symbolic/significant costumes" (p. 1).

In his creative music education system, he and his colleagues are actively reassembling African Indigenous musical knowledge systems, traditional African musical instruments, songs, dances and other cultural rituals and rites of passage in reclamation efforts to the "cultural imperialism" by "European [musical] models" whose aim was to "civilize the barbarian nations"

(Akpakpan, 2011, p. 202). For Nzewi (2007), “African music stimulates total body sensing. The focal point of impact is the heart, the power base from which sensory vibrations radiate to other parts of the body including the brain...European classical music is essentially music of the mind implicating localized (mental) appreciation” (Volume 1, p. 49).

Nzewi’s creative music education perception is that, “The human body and indeed the entire natural creation are, in the ultimate reduction, a functional mass of compacted sound. Every form in creation is then a differently manifested resonance” (Nzewi, 2013, p. 2). In John Ajewole (2013) critique of the Cultural and Creative Arts (CCA) curriculum in Nigerian secondary schools, he draws upon Nzewi’s work and offers multiple examples of how sound explorations are used to invite students to listen to their world and to use sonic material from their environment to enhance musical creativity.

In his review of creative music education in Yoruba, Isaac Yekini-Ajenifuja (2013), brings into play the sound of poetry highlighting the unique voice students bring in their creative exploration of text. He notes, “Speech melody and speech rhythm are inter-related in African music” (p. 147). Speaking to the growing hip-hop culture in Nigeria, Olalusi, Kehinde Adedamola (2013) speaks to the ways “sounds of the city” (p. 155) offer opportunities for students to listen and repurpose sounds to express their creativity.

In speaking to the psycho-social imperatives for African indigenous music in education, specifically the preservation of and conservation of Kenyan music and dance, Emily Akuno (2013) speaks of a child’s “sound culture.” She says, “Starting with the basics of becoming aware of the basic elements that make up one’s environment, the individual moves on to finally manipulate them in a manner deemed appropriate to self and to society” (p. 223). For Akuno,

“the *material* of indigenous music are: sound, movement and instruments” (Ibid., p. 221, Italics original).

Steven Mithen (2005) and John Blacking (1973) echo Akuno pointing to human anatomy and the impact bipedalism, brain formation and the vocal tract have had in evolving and developing musical abilities. Describing the analytical-creative process in composition, Akuno notes,

In composition and related creative activities, the composer identifies resources in their environment that will best serve in articulating and presenting the musical ideas generated in their minds. This is an analytical activity whose result is the conceptualisation of what makes up sound, how various types of sound are generated, and what happens when different types of sounds are combined etc. Armed with this knowledge and experience, the composer can then select and combine appropriate sound moments to come up with a work of art. This is the analytical-creative process that results in music composition, improvisation, extemporisation or any kind of variation (Akuno, 2013, p. 219).

Resources, from an African Indigenous Knowledge systems perspective, can be an assortment of materials found in one’s environment and repurposed to construct musical instruments or vocalizations mimicking sounds, movement inspired by natural life (e.g. animals, wind, trees, etc.) and rituals or rites of passage involving oral narratives wherein the sounds of ancestors are used to reconnect persons to their socio-geographical histories.

In addition to using sound as material for creative music engagement, African Indigenous knowledge systems also speak to the role noise plays and how spaces are delineated and felt via environmental vibrations. Emaeyak Peter Sylvanus describes the urban bustle of Lagos and how

inhabitants navigate between wanted and unwanted sounds. His investigation resonates with Michael Bull (2000, 2007) and Rebecca Tuhus-Dubrow's (2017) research around the use of the personal stereo (Walkman and iPod) to construct identity as well as mediate personal/private space and social interactions. With "21 million souls" populating Lagos, Sylvanus (2013) observes that within the "urban sonic shocks...order" exists that has not been fully realized. He says, "This kind of order represents processes of engagement and disengagement as well as the absorption in 'difference': so that difference...becomes the crucible for the exhibition and experience of variety, and variety thus designates all profane and non-profane sounds within urban centres" (p. 167).

Drawing from Henri Lefebvre's (2004) notion of *polyrhythmia* (the coexistence between or among two or more rhythms in space and time), Sylvanus (2013) also suggests these "quasi-musical phenomenon" should be an area of study within music and music education as "these interactions present an opportunity to evaluate or re-evaluate our aural sensory sensibilities to noise and urban experiences — an ability that is clearly far removed from common sense" (p. 168).

As of Sylvanus' writing, Ruth Herbert and Nicola Dibben's (2018) study of 10-18 year-olds' come close to a quasi-musical phenomenology investigation. Their study gathered data related to participants' intra-and extra-musical subjective understanding of musical excerpts including "examples participants might not ordinarily categorise as 'music,' [such as] spontaneous chanting in a football stadium" (p. 377). However, a research with similar age groups *and* focusing on everyday sounds, to my knowledge, has not been conducted. The work here in *soundcurrents* draws on sounds participants collected from their everyday treks, unlike Herbert and Dibben who used "experimenter-selected" excerpts, which were primarily musical.

Future research could include curated pre-selected everyday sounds for participants to listen to and describe any musical and extra-musical perceptions. It could also be useful to include multiple participant groups representing various demographics listen and describe sounds specific to locales they live and frequent (e.g. school, malls, church, sports events) as well as introduce sound clips from areas outside of their specific areas. This would involve the researcher engaging in pre-study fieldwork recording. Potential benefits include: developing deeper ecological awareness about soundings from various environments; sharpening aural acuity; and opening sonic fields for musical imagination, play and creation.

(Re)knowing by (Un)doing: Why De-sacralization and Musical Hermeneutics Matter

By comparing African Indigenous Knowledge Systems to the creative music education movement of the mid-20th century it becomes clearer to see how western ways of knowing and being musical intersected and interfered. It seems paradoxical that while the creative music movement of the west was working toward sensorial holistic and equitable music education practices, Nzewi and his colleagues were on a similar path. However, pre-colonization, Nzewi's forbearers already had their unique musical traditions that were connected to the body, mind and spirit and Earth. In working to undo what was done, Nzewi, like many other Indigenous traditions whose cultural, spiritual and personal lives were disrupted by colonialism, elucidates "that the dominant value system in Western culture privileges external ways of knowing...this is out of balance and especially problematic because it creates 'dis-ease' for those who may make sense of their world using more internal or intuitive means" (Smith, 2014, p. 6). One way to address such dis-ease is proposed by Rebecca Rinsema (2018) who argues,

A complete de-sacralization of the European tradition thus requires music education

professionals to dismantle both the ‘stylistic hierarch’ and the ‘engagement hierarchy.’ I propose the incorporation of musical hermeneutics into the music classroom as one way to do so (p. 1).

Rinsema offers three “hermeneutic windows” to facilitate de-sacralization. Each window — *Media integrations*, *Allusions* and *Actions* — opens a space to “explore what music means in and through its contexts” (p. 7). This is a holistic way to engage in musical listening (and performing) as it situates music, image, text, performer, audience, venue and sounds (musical, ambient and instrumentally altered as in her Jimi Hendrix example) within a constellation of sensorial experiences. Musical hermeneutics is a creative critical act on its way to consciousness.

De-sacralizing acts as way to “de-center *Music*” (Recharte, 2019, p. 70 Italics original) in the sense that it can work towards de-monumentalizing canonic consecration and veneration. None of this is to suggest that music from the common period (including before and after: Baroque, Romantic) should not be included in students’ musical experiences. Such music offers insight into historical moments, provides an array of instructive theoretical applications specific to ‘tonal’ function and harmonic possibilities, and for many students, provides pleasurable listening and performance opportunities. However, to the extent that such cultural heritage creates “dis-ease” inhibiting students from exercising their creative potential through cultural production, then is the moment to reconceptualize music’s purpose and role in music education and in society as this is where students must carve their future careers and lives. For the calls above are not without precedent as heard in the pioneering work of the creative music movement. Nor are they without purpose.

In conclusion, I address pedagogical disturbances effecting shifts in thinking and practice, and then delineate a curricula sketch centered around *sonic lifeworlds* as one way to

realize some of the conceptual arguments for a sound pedagogy, a sound approach and a music education that resonates.

Possibility | Pedagogical Disturbances | Sonic Lifeworlds

For music educators working towards relevant, responsive, sustaining and socially just pedagogies — ways of teaching that opens and promotes space for students to reflect, critique and articulate their ideas and feelings about their experience of being in the world — pivoting and reorienting towards sound, or “sonic thinking” (Cox, 2018, 2017) carries significant potential. Partly, this is because it necessitates reconceptualizing music and reexamining theoretical and pedagogical fundamentalisms.

For music educators considering a pedagogical shift it is useful to ask, ‘from whence pedagogy?’ and to reconsider what pedagogy does and does not do and what it can and cannot do. Some scholars in the field of music education have pointed out the potential for pedagogy to be susceptible to and exhibit elements of “rhetoric and propaganda...sloganize...religious zeal...proselytized...[and] highly prescriptive” (Woodford, 2005, p. 29-30). This may be due, in part, to “the fact that instructional methods have been worked out to a high degree of sophistication and defended” such that interrogating them and/or steering away from tried-tested methods could be considered heresy — “even anti-intellectualism construed as a lack of interest in and reflection about questions that underlie practice” (Jorgensen, 1997, p. 91).

While it is true that etymologically speaking pedagogy can carry with it significations that “reveal hidden and less desirable shadings of meanings, that while perhaps lost to contemporary consciousness, remain operative” (Woodford, 2005, p. 30), it was useful for me in

thinking through current calls for a sound pedagogy to move beyond a mere “slave” narrative into one that affords more nuanced and conscious ways of engaging the term.⁸

Thus, I draw upon Rosa’s (2020) notion of *resonanz* to frame a pedagogical philosophy and practice of sound. He situates schools as resonant spaces because “it is in school that we begin to grapple with the ‘stuff of the world’ by reflecting on it, actively distancing ourselves from it, and adaptively transforming it” (p. 238). For Rosa, “The first and fundamental organ through which we enter into a responsive relationship with the world and make the world respond to us...is the *voice*” (p. 63, Italics original). Indeed, voice signifies sociological entanglements with/in/to the world. As James (2019) notes,

The rhythmic patterns of one’s voice communicate the individual uniqueness and “concrete reality of differences” due to aleatory aspects of their environment and individual choice...size of your vocal chords...[and]...thus communicate the same sorts of information about individual variability...[as] sociological statistics communicate: the indeterminacy of life (p. 64).

Voice signifies a sonic relationship with/in/to the world and the things. For Rosa,

Education in the sense of resonance theory...is aimed not at cultivating either the world or the self, but rather at *cultivating relationships to the world*. The goal is not refinement of the individualistic or atomistic self, nor disengaged mastery of the world, but rather opening up and establishing axes of resonance (p. 241 Italics original)

Rosa contends that schools can become *resonant spaces* or *zones of alienation*. In the former, *teacher, material* and *students* intersect to find value and meaning in the work they do. In the

⁸ Mariolina Rizzi Salvatori’s (1996) historical treatise, *Pedagogy 1819-1929: Disturbing History* traces how such perceptions came to be enacted in higher education, and through time settled into the general public’s conceptions about teachers and teaching; leading to some of the anti-intellectualism sentiments resurfacing in current social-political climate.

latter, students do not feel connected to the material, teachers “gradually lose faith in their ability to convey information” (Ibid. p. 243) and “there is no ‘connection’ here between students and teachers, meaning that the axis of resonance between them remains mute” (p. 242).

Equally significant, is that just because a student may not feel connected to the material, they may still go through the motions/hoops to get a passing grade, as many educational institutions have succumb to by rote standardized pedagogies driven solely by commercial interests, or what Haiven & Khasnabish (2014) call, the “edu-factory” (pp. 36-39). While it is outside the scope of this article to consider which is worse — connecting and passing or not-connecting and passing —it is something educators may wish to consider when designing curricular material as it relates to pedagogical goals and assessment aims and practices; particularly if their aims are to engender resonant spaces. To rely on institutional shifts may be a long time coming, as it seems administration often feels it is monetarily unfeasible and not in their best interests to change, thus classroom teachers may be better off exercising their “*policy knowhow*” (Schmidt, 2020, p. 52, Italics original) and changing things for them and their students themselves to reflect their pedagogical imagination and consciousness.⁹ Also, as noted above with *Sputnik*, educational policies are often prompted by governmental guidelines, which cannot always be relied upon to have the best interest of students and teachers in mind.

In tracing the rise of critical pedagogies across media studies, David Lusted (1986) complements Rosa’s pedagogical triptych and speaks specifically to the *cultural production* aspects afforded when teacher, student and material resonant. He asserts,

⁹ For examples of middle-school, high school and university music teachers applying *policy knowhow* in creative critical ways via improvising, composing and attending to *sonic lifeworlds*, see Schmidt & Edwards (in press) “Composition, Policy and the Formation of Agency: Pathways in Teacher Education and K-16 Practice”, in M. Kaschub (Ed.). *Oxford handbook of music composition pedagogy*. Oxford University Press.

What pedagogy addresses is the process of production and exchange...the transformation of consciousness that takes place in the interaction of three agencies — the teacher, the learner and the knowledge they together produce... The promise of the concept of pedagogy lies in its possibilities for thinking anew *how* cultural producers, in their different sites and purposes...can act productively and transformatively” (pp. 3 & 11 Italics original).

In the process of production and exchange, curricular material becomes a space to entertain a music education that resonates. Material denotes matter: *substance, stuff, significance* and *relevance*. Matter also denotes *trouble, difficulty* and *complication*. The things that matter to students should be necessarily integrated into a sound pedagogy. Material derived from students' lived experiences include everyday sounds they encounter. Most of the time such sounds go unnoticed. Other times, they are tuned out via earbuds, iPhone air pods and other in-ear devices that block out and 'cancel noise' deemed outside interference.

Sounds from the street can be loud, annoying scary and disconcerting. They can also signify a way of life and as one's ears become accustomed shape their daily routine and worldview (<http://www.listenersguide.org.uk/bbc/podcast/episode/?p=p03hbc0v&e=p02rt9my>). Sounds can be historic, epic and eventful, such as sounds of demonstrators protesting police violence and economic injustice (<https://delarenti.net/protest/>). Or, sounds from civil unrest and protests against the government of Iran associated with the death in police custody of Masha Amini began on 16 September 2022 (<https://www.youtube.com/watch?v=pcXVBEdBf7Y>).

Sounds can alert us to scientific and engineering feats to help us understand underwater marine life or how AI and electric vehicles are sonically outfitted to be heard on autobahns and roadways (<https://whyy.org/episodes/humans-and-sound/>). Sounds and their absence can also

draw our attention to what it has meant to live, work and play during these last two years of the pandemic (<https://www.nytimes.com/interactive/2020/05/22/upshot/coronavirus-quiet-city-noise.html>). Sounds from home can become normalized such that routines such as cooking, eating, gaming and showering can become ‘background’ noise and seem insignificant. Sounds from school can be joyful, traumatizing, tense, fun and competitive.

In other words, sounds are all around signaling and shaping our perception of place, space, time, memory, taste, touch and people. Some sounds we might call music (<https://everynoise.com/>). Others, maybe soundscapes or, what Bernie Kraus (2012) and Barry Truax (1978) have delineated as biophony, geophony and anthropophony depending on which organisms are responsible for their generation (<https://www.world-sounds.org/>).

An attention to *sonic lifeworlds* includes all of these sounds and more. Exploring sonic lifeworlds as curricular material and pedagogical matter opens a space for music students to reconceptualize their understanding of music while also connecting them to/with sonics at play in their everyday life — personal, social, emotional, familial, political. Putting sounds to work pedagogically starts by inviting sonic lifeworld material into the music classroom space. Most students carry mobile phones. These are packed with technologies allowing them to be musical, literally at their “fingertips” (Greher & Burton, 2021). Using their voice memo or other digital audio recording app on their mobile devices, students may explore, listen and record short sound bytes they find intriguing throughout their day.

Next, a music teacher would want to have a communal space for students to upload and share their sound clips. The online collaborative bulletin board Padlet ® is one place where sounds can be uploaded. The collaborative bulletin board space should be designed in a way that invites students to consider and trace how and in what ways sounds they found intriguing also

make them feel, and why? Do certain sounds create a sense of anxiety, joy, happiness, fear, alertness, for example? Do certain sounds trigger memories or recollections about some one or some place or an event? Does a sound remind students of a particular food, color or other sensation or activity?

Special attention should be given to any musical aspects students detect in sounds they have collected and uploaded. Given what they have experienced thus far in their musical journey and in tandem with a teacher's lesson plans, aims and goals, students may identify oscillating patterns, pitches, drones, timbral features and rhythmic figurations present in sounds they have collected. How might such sounds be orchestrated and arranged?

If using Digital Audio Workstation (DAW) programs and applications, sounds can be uploaded into project files and students may use that space to experiment orchestrating and arranging sounds. Perhaps they will want to choose and use a preset loop and plot and arrange their sounds along this. Or, they may decide to add audio effects to their sounds and hear the differences between that and their original sound clip. If in an instrumental or choral ensemble, students may work to realize sounds on their instruments and voices, thus opening up opportunities to explore extended technique. In either case, they are thinking sonically first and then working their ears in musical directions perhaps newly heard or tried.

By expanding their sonic fields, they may augment their musical understanding and capacities. As they work solo or in small groups they may draw from the collected sounds an array of timbres, pitches, melodic fragments and rhythmic figurations through which to improvise and compose sound pieces. Using their musical knowledge and skills and adding a new aspect of sound, students' original sound pieces may not sound like anything they have

played from a score before. In this way, they will have expanded their ear to include everyday sounds.

However, the creative aspect of *sonic lifeworlds* as fun as it may be, is one half of the pedagogical aim. By having collected a variety of sounds and their unique significations per student (e.g. sensations, feelings, memories), the music teacher will have carved a critical space for discussion. Why do some sounds occur in some places and not others? How is it possible that a sound carries different meanings for different students? Why are some place and spaces louder or softer than others? Why do some sounds feel dangerous? Why does that sound make one feel happy, and another sleepy, or another angry? Why does that sound freak me out? What do sounds suggest about students' neighborhood, community and routines? Why do some sounds make one cry, laugh and feel tender or run away? In what ways do the sounds from virtual worlds comingle with students' real worlds?

The questions are endless. And, generally speaking if space is made to entertain them, students will be interested. Why? For one, most music students have never thought about music in sonic ways. Also, some music students have become accustomed to thinking music class is solely for learning notes, practicing scales, perfecting fingering, phrasing, breath control and so forth. However, as McRae (2021) articulates, "The classroom is a dynamic cultural and social space" (p. 127). Furthermore, as McRae & Nainby (2020) note, "Sound is a critical and generative site of inquiry...sound is also playful" (p. 290).

From a pedagogical perspective, sonic lifeworlds are material culture that can matter to students as it invites creative critical ways of knowing, being and relating to music and the world. A pedagogy centered in sound corresponds to Rosa's understanding that

The universe of sound consists in its ability to express or generate all manner of

different and differently nuanced relationships: strife, loneliness, desolation, resentment, alienation, and tension, as well as yearning, refuge, security, love, responsivity. (p. 94)

Thus, the sonic lifeworld material becomes a link between resonance and alienation and a catalyst for creative critical consciousness.

Conclusion

By revisiting some of the earlier articulations within music education as it relates to sound, I hear current calls for a sound pedagogy to be ones similar in sentiments. First and foremost is working towards a pedagogical imagination and consciousness that serves not just as a replication of heritages, but also a questioning of why such heritages are taken as a naturally given fact that becomes a curricular act without challenge? Thus, the philosophical inquires of Abramo's (2014), *a music education that resonates*, Hill's (2017) *a sound approach* and Recharte's (2019) *sound education* proposing *De-centering Music* — bear witness to a need to reexamine pedagogical imagination and consciousness to ensure (as much as one can) that music students have available to them a variety of sonic resources with which they may use to think and be musical.

At the same time, it is fact that musical beings live, work, play, sing, perform, breathe and die in a complex and sometimes unsound world. Ours seems particularly complex and challenging at this moment. I imagine it did also in the mid-20th century as well. The role of philosophy of education in a research-oriented environment is to attend to the ontological, epistemological and phenomenological aspects of being (Vandenberg, 1971). It is then to take such speculations and understandings and move them through a process of pedagogical action. An Reorienting towards sonic lifeworlds is one way to enact a music education that resonates. It is one way to imagine music teachers as teachers of sound. It is one way to De-center music.

And, it is one way to invite, excite and catalyze creative critical consciousness.

ARTICLE 2 | Exploring the sonic lifeworlds of high school music students

Abstract

This article recounts high school music students' perceptions, reactions, responses and insights related to their experiences listening, collecting, critiquing and creating with sounds from their everyday life. Using sound arts-based research (SABR) methods (Gershon, 2018), sensuous scholarship (Pink, 2009) and post-intentional phenomenology (Vagle, 2018), this qualitative research study highlights some of the ways a reorientation towards sound in music education curricula can open spaces for creativity and critical reflection about issues significant in students' lived experiences. Taking place during global upheaval wrought by COVID-19, the murder of George Floyd, international Black Lives Matter protests, the Uvalde school shooting and Russia's invasion of Ukraine, participants in this study had much weighing on their spirits. Being asked to consciously tune in their "Sonic Commons" (Odland & Auinger, 2009) offered them opportunities to confront some of the dissonances they experienced. Participants also spoke to the personal, social and musical significance of sounds they encounter during their regular engagement with original soundtracks (OSTs) from their favorite video games and movies. Sounds streaming from these virtual worlds opened into debates of real-world affairs around gun violence, mental health and democratic failings by politicians stoking flames of derision and divisiveness by passing blame and avoiding accountability and responsibility. The use of digital audio technologies (DAT) such as digital audio workstation's (DAWs), launchpads (e.g. Ableton Push and Novation), and music videos played a predominant role in participants' creative practice at home, suggesting greater attention should be paid in music education to developing digital audio technology (DAT) curricula that enhance students' experience of listening and responding to their worlds. Participants in this study highlighted some of the personal and well-

being benefits they experienced listening, walking, collecting, cataloging and creating using sounds from their everyday life, as well as some of the challenges doing so during a stressful year of schooling in the midst of a pandemic. This article articulates and delineates specially designed sound methods used in this study that may serve as a working model for educators wishing to invite creative critical inquiry into their teaching and learning spaces. In line with SABB methods and to ensure participant voices are heard, some of the vignettes shared in this article feature audibly accessible links so that readers may listen to participants share their *sonic lifeworld* encounters and experiences.

Keywords: sound, creativity, critical pedagogy, digital audio technology and production, virtual reality (VR)

Introduction

This study starts from the premise that sounds are primordial phenomena shaping ways we come to sense, know and be in the world. The interdisciplinary fields of *archaeoacoustics* (Eneix, 2014; Kolar, 2018; Reznikoff, 2008; Scarre & Lawson, 2006; Zubrow & Blake, 2006), *sound studies* (Augoyard & Torgue, 2005/1995; Bull, 2019; Eidsheim, 2015; James, 2019; LaBelle, 2010; Sterne, 2012) and *sensuous scholarship* (Howes, 2005; LeBreton, 2017/2006) have shown the various and intricate ways humans have interacted with sound: signaling, effecting and crossfading in/out/across spaces, places and peoples encountered everyday. Drawing from those fields, this study situates “sounds [as] systems of educational ways of beingknowingdoing” (Gershon, 2018, pp. 26-27).

Recently, scholars in the field of music education have speculated pedagogical possibilities that an attention to everyday sounds might have in carving spaces for creativity and criticality — thus addressing some of the internal/external tensions around accustomed ways of

knowing and being musical, and *being* in the world. (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). Percussionist/conductor/music educator, Steven Schick, for example, in his keynote address for the New Music Gathering in 2017 called for music educators and their students to tune in and “hear the nearly and audible sounds of our culture” (21’10 <https://www.youtube.com/watch?v=6pM9v3BgVNM>) — sounds that may be out-of-sync with ways of living that are kind, equitable and just.

Calling attention to sounds’ ephemeral qualities, Abramo (2014) proposed a music education that “resonates” wherein students may practice sharing and entertaining multiple perspectives — a “fluid sense” of listening, knowing and being in the world. Continuing his discussion considering ways sound might be used methodologically, Abramo (2015) says, “Soundscapes are political spaces rendered through sound. Approaching classrooms and other places of learning as soundscapes allows researchers to attend to the sounds produced in that environment and to generate sociological explanations” (p. 279). Such conceptualization resonates with Roshanak Kheshti (2015) who says, “Sound is a social formation that is constituted by struggle and struggled over...Sound’s form is a hermeneutical tool; a wavy and reverberant materiality, it reflects, is productive of, and also engenders through resonance” (p.111). Schools, as sonic sites for generating sociological explanations has been sounded in the empirical studies of scholars outside of music education such as, Boni Wozolek (2018), Amanda Black and Andrea Bohlman (2017) , Jon Wargo (2018) and Walter Gershon (2020) — all who explored the acoustic ecologies of high schools and universities, revealing the sonics of racism, genderism, sexism and socio-economic exclusionary policies and practices students experienced.

Taking a Cageian approach to sound, Hill (2018) advocates that music teachers develop “sonic curiosity” (p. 51) and reimagine their roles as “teachers of sound” (p. 60). He says,

“students should...learn how to listen more attentively to the ambient sounds of their world...[and] deepen and diversify their meaningful relationships with sound” (Ibid.). Going one step further, Recharte (2019) suggests a “sound education” and “listening and sound-making as alternatives” to the “premium that is put on *Music*” (p. 70 Italics original). Specifically, a premium on prized ways of knowing and being musical via the values and customs of the so-called canon espoused by a nineteenth-century ‘classical’ music tradition. Echoing this sentiment, Thibeault (2017) suggests “sound studies may yet prove helpful in resolving some of the primary challenges in our field, particularly the call to broaden existing conceptions of music education” (Ibid, p. 80). Indeed, sound studies does offer another way to conceptualize ways of knowing and being musical. As articulated before in the soundcurrents, and will be also in the methods, theories such as sonic thinking, sonic sensibility and discovering drive are derived from sound study scholars.

Creativity as a way of sensing, knowing and critiquing the world

This study is centered around creativity and critical pedagogies. Such pedagogies are those that invite students’ lived experiences, ‘know-hows’ and ways of being into classroom spaces (Benedict, et. al, 2015; Freire, 2005/1970). Creativity, via improvisation and composition activities, have been found useful for facilitating opportunities wherein students may explore music creation on their own terms, expanding their capacities to think and be musical (Bamberger, 2013,1972; Barrett, 2014; Hickey, 2012; Kaschub & Smith, 2009; Webster, 2015; Wright, 2015). Improvising and composing have also been instrumental in offering collaborative spaces for students to address and express any personal or social concerns they may have about things they hear and see and experience in the world (Niknafs, 2013; Smith, 2014; Wright & Kanellopoulos, 2010; Younker & Hickey, 2007). Kanellopoulos & Wright (2012) suggest such

practices offer a space for “critique of the current state of affairs through imagining possibilities...Through processes of sound organization students are actively engaged in the construction of social relationships” (p. 150). Heble & Laver (2016) situate creative music practices such as improvisation as a “pedagogical heuristic [that] can help students become more thoughtful, engaged, and activist global citizens...[and] can teach a critical acuity and an ethic of deep empathy” (pp. 1-2). Smith (2014) says,

Allowing [students’] voices to emerge and letting them define the issues and the contexts, as well as the forms, of musical expression may provide one pathway for them to define what is important to them, to define what their feelings are, and to sonify those feelings.¹⁰ (p. 164)

Such sentiments stem from an understanding that arts processes and products open a space for “imagination to play on what we have perceived...offer[s] us new vantage points on the world...a strange coming together of some of our own memories and feelings — the perception of new meanings in our own lived worlds” (Greene, 2001, pp. 11, 13). It is in the lived worlds, virtual and real, and specifically in the sounds encountered in those worlds that high school participants exercised their imagination and curiosity and creatively engaged and expressed issues and concerns relevant to their lived experiences. Thus, activities in this study as heard in their own voices above became channels for conversation, contemplation and shifts in consciousness.

Bylica’s (2020) recent study with middle-schoolers in the USA is a significant way forward in thinking about and applying the pedagogical potential sound offers. Gaztambide-

¹⁰ Smith’s suggestion is in relation to Allsup’s (2007) questions about “impact” and relevancy to “larger [social] problems”, and ways music educators might respond or help “remedy.” Allsup’s (2022) recent query as to creativity ensuring criticality is discussed in Article 1.

Fernández’s notion of cultural production and the dialectical interplay between inner exploration and outer representation, provided a framing wherein Bylica’s participants could engage creatively and critically via sounds from their world. She says,

In this project, the question ‘How do I hear my world?’, guided students in the development of soundscape compositions that explored their understandings of place. They used recorded and sampled sounds and digitally mixed their compositions across various platforms. We then explored the compositions in varying social spaces and forums – large group, small group, and independent listening walks – intentionally provoking conversations about a variety of topics based on student compositions. (p. 335)

Bylica’s work resonates with concepts and aims of this study and speaks to some of the affordances that an attention to, what I have called *sonic lifeworlds* can matter, especially for music teachers working towards carving spaces that engender, what Benedict (2017) describes as “epistemological spaces of wondering and wandering [wherein] ...we embrace the power of contingency and demonstrate that the world is chaotic and unpredictable, and thus infinitely renewable” (pp. 14, 19).

This study engages with the above philosophies and practices. The specially designed methods used in this study represent a synthesis of curricular activities dating back to R. Murray Schafer’s *Creative Music Education*. Of significance to this study is his question, “What is the relationship between [humans] and the sounds of [their] environment and what happens when these sounds change” (Schafer, 1977, pp. 3-4)? Through his analyses and reflections he came to conclude, “the general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society” (Ibid, p. 7). It is such trending, or what I have come to call *soundcurrents* of society,

that this study was interested in exploring; specifically the ways in which these currents impact students' relationship to the world and the things. By offering study participants ways to to systematically gather, critique and (re)assemble sonic aspects of their life, then connect these to other senses, spaces, places and memories, their journeys through sound revealed some of the tension, quandary, hope and comfort in how they relate to/with the world; and also informed their compositional choices, as sounds became material for experimentation and play. Thus, criticality and creativity worked in tandem.

Study Purpose and Research Questions

The purpose of this study was to explore how, and in what ways if any, everyday sound currents streaming in/out/through participants' life — home, school, neighborhood, streets, cyberspace, etc. — could be a conduit and catalyst for creative critical consciousness. The research questions guiding this study were

1. How do participants describe and discuss their relationship to sounds they encounter?
2. In what ways, if any, do their discussions connect to wider personal-social-political issues?
3. How do participants describe their creative engagement and processes using sounds to improvise and compose?
 - (a) In what ways, if any, does such engagement and processes influence their perceptions about music, sound and personal creativity?

Study Participants

In total, there were 18 study participants across 2 partnering Canadian high schools in the province of Ontario. Participants ranged in age between 15-17 years old and had varying degrees

of formal, informal and non-formal music experience. Partnering teachers, Mr. V and Mr. D. had between them forty years in the classroom. Mr. V, a European-born classically-trained bassoonist and adjunct university studio instructor, taught a high school General Music course (G1A) within the Catholic Board school system situated in an urban city (405,000 pop.) bordering rural farm communities. All nine of his music students signed consent forms to be participants. Mr. D, a gospel and classically-trained singer and Juno Award recipient, taught an Introduction to Music and Technology course (G1B) within a public school system situated in a suburban region of the Greater Toronto Area (GTA) (603,000 pop.). Nine of Mr. D's sixteen students signed consent forms to be participants. Schools were approximately 172 km apart from each other.

When I asked participants why they had consented to participate in this study and what they might want to get out of it, responses included:

- *I really like where you can take sounds and put them into a song really interested me, some of my friends do that and I wanted to learn how to that.*
- *It all looked very interesting in my opinion.*
- *Doing music from different sounds sounds kinda cool.*
- *I am really interested to learn more about music and producing in general.*
- *Curious.*
- *I am interested in how music and sound effects us on a daily level.*

Participants engaged with the study methods at varying degrees of detail given the circumstances under which they were working. Pandemic interference stalled the start of the study's in-person sessions such that we only met three times face-to-face (albeit masked), and virtual meetings presented issues for some participants (e.g. internet reliability, illness, absence,

etc.). Participants' levels of engagement and enthusiasm were also effected by COVID- 19 related school closures, shifting class schedules, family and personal experiences of anxiety, depression and burnout (Recall Bella's journal in soundcurrents 5). In our final debriefing, Mr. D expressed,

One of the observations (and feedback from a small handful of students) was that collecting 5-7 audio samples per student each week was a challenge...not all students had the zeal and passion to commit to doing this work, there was a lot of "reminders" on my part. Perhaps reducing the number of audio samples to collect each week...Another factor to consider is the age group - these were Grade 10 students who were coming out of the pandemic (which generally is another factor contributing to the outcomes - work ethic diminished greatly due to online learning during the pandemic an overall observation last school year as that it took a lot of "pulling teeth" to get student to do work when they returned to in-person.

Despite the hurdles presented, when asked about any surprising discoveries, challenges and entanglements, connections made (musical, social, personal), future orientation (i.e. how, and in what ways could sound-based methods be employed in your musical learning) and grunts, gripes, wishes and take-a-ways, participants' response included,

Discoveries:

- *Being more aware of my surroundings*
- *How sounds are such an important part of our lives*
- *Allows us to explore how sounds work on our minds, and how they affect us on a daily basis*

Challenges and entanglements:

- *Putting everything together to make it sound cohesive*
- *At times, finding the right sounds for what i had in mind felt impossible*

Connections made (musical, social, personal):

- *Video games sounds can work very well in songs*
- *Sounds from different environments can work very well together*
- *I think that the sound we hear on a everyday basis could have a lot of meaning and valuable lessons if we just think*

Future Orientation (i.e. how, and in what ways could you use sound in your musical learning?)

- *Lessons or projects that invite you to use the sounds around you*
- *Analyzing songs and how we could make it without typical instruments*
- *I don't really see myself in music but if I did got into it probably video games or live sounds like birds chirping, sword sounds, like the game Ghost of Tsushima... if I were to go into that it would be live video game design and live sounds and stuff*

Grunts, gripes, wishes and take-a-ways:

- *These workshops are valuable because they help expand our knowledge and understanding in music and sound. They're engaging which makes us want to participate*
- *I wish things like this where we take our environment and make it musical was done more often.*

Insights under the hoodie: Not for everyone at the moments we may think

Not all participants found resonance in this study in the same ways, nor at the same times. Jack usually sat in the back or alongside the left wall of the music room with his head in his lap. He was quiet and kept to himself, unless directly asked a question — which, I made a point of doing to include him in the conversations. When he did engage I found his insights thought-provoking, sincere and kind; in the way of a person who's quiet introspection is not representative of disengagement, necessarily, but an indication of a person deeply involved and invested in their own living and being true to who they are, or who want to become. In reflecting on his experiences during the study, Jack had this to say,

these past two months of doing this project have been honestly quite confusing. The work I handed in was lacklustre and too simple. I know I could have made a more interesting soundscape, but I didn't. It was also a matter of me really not being used to this type of work. I didn't like how the tempo of the recordings couldn't match up, not that nature's sounds are always going to be at 80 bpm. One thing I can definitely take away from this is that I still suck as a musician (if I can even call myself that) and that I can't even grasp what else there is to learn. The sound part of it is very confusing to me right now. In my case, it really was what it was supposed to be on the most basic level. I didn't really try to add some sort of story to it, it was just my way to school. Improvising is the method of music in my experience. A melody that actually gets me to want to build around it is hard to come by. I'm not well versed in music theory and I'm not very good in the first place. I don't think this project has really taught me so much as it gave me a new perspective.

(SNJ).

In our final session together, I asked participants why, or why not, they thought discussions around sound, silence, noise and music are important. Jack led the conversation off by saying, “It’s not.” He chuckles in a polite and thoughtful way. At first taken back, thinking perhaps I had heard wrong, I listened. I was glad I did because the conversation spoke to concepts such as choices, value, truth, knowledge, perceptivities, discretion, adaptability, comprehensibility, dissonance, and as Stéphanie began to say, before the end of day school abruptly cut her off, “conscious talk” [<https://on.soundcloud.com/bduCE>].

Methodology

Exploring consciousness, specifically polyphonic ways of sensing, knowing and being, necessitates using methodologies that attend to affective, embodied, experiential and sensory aspects of perception. Three interrelated methodological paradigms within the realm of qualitative ethnographic research speak to such aspects: Gershon’s (2020, 2018) sound arts based research (SABR), Pink’s (2009) sensuous ethnography, and phenomenology—specifically Vagle’s (2018) post-intentional phenomenological research method wherein, “the phenomenon is seen as multiple, partial, contextual, in flux, and simultaneously producing and being produced” (p. 41). SABR starts from the premise that sounds inform and influence ways we come to sense, know and be in the world. They are both educational and methodological in that they offer teachers and researchers an ear into the lived experiences of their students and participants. Phenomena that may otherwise go “unnoticed” in ocular-centric research paradigms, can potentially be heard in the sounds, noises, silences and spaces in between. Exploring and excavating everyday sounds was only one aspect of this study. Also of import was how and in what ways sounds collected may have connected to other sensations and embodied ways of knowing (i.e. touch, taste, scent, memory) across time and space. Sensuous ethnography played a

significant part in designing methods capable of capturing such data as it entails taking a series of conceptual and practical steps that allow the researcher to rethink both established and new participatory and collaborative ethnographic research techniques in terms of sensory perception, categories, meanings and values, ways of knowing and practices. It involves

the researcher self-consciously and reflectively attending to the senses through the research process, that is during the planning, reviewing, fieldwork analysis and representation process of a project. (Pink, 2009, p. 7)

Because sounds and sensations intersect and intertwine to form a constellation of human experience, post-intentional phenomenological research methods opened up a design and analyses space for attending to the “gnarliness of life” (Vagle, 2018, p. 193) — of which there was plenty of that going on as heard thus far in the soundcurrents.

Study Methods

The methods, activities and ways of gathering data for this study were designed to offer participants multimodal and multisensory ways to listen out for, reflect on and reengage sounds from their everyday lives. Each method was meant to attract and accumulate an array of diverse insights into participants’ ways of sensing and making meaning from their lived sonic experiences. All of the methods for this study have curricular potential and can be used in any combination and in any educational setting. While music classes were the sites explored here for specific reasons, I think teachers across disciplines may also find use; especially if they are interested in engaging their students’ lived experiences. This study is educational in scope and its activities stem from a pedagogical perspective centered on creativity, criticality and consciousness.

In this section, I describe the methods and activities used and speak to some of the affordances, challenges, complications and surprises that surfaced. I also articulate some of the work-around, accommodations and modifications that became necessary. The methods here are by no means ‘new’ in the field of qualitative music education research as I have come to ascertain. However, the sensory turn I take towards sonic encounters signal a perspective that has been empirically under explored. Thus, these methods are offered as a way to act through and with some of the conceptual framings articulated above.

Because this study is also phenomenological oriented in that I am interested in how participants encounter, experience and express everyday sound sensations creatively, critically and consciously, the methods are designed to uncover “meaning that can be constructed from the combining of objects of nature and objects of consciousness” (Hourigan & Edgar, 2014, p. 150). Objects of nature in this study are sounds of life encountered, experienced, excavated and entertained through improvisation and composition activities. Objects of consciousness are the creative critical reflections and artifacts derived from such engagement. This study’s methods attend to both. (See Fig. 2.1)



Figure 2.1 | G1 Methods

Sound Session Workshop (SSW)

The study included nine Sound Session Workshops (SSWs) each lasting approximately 75 minutes. These sessions were commensurate with the partnering music teachers’ class schedules and occurred over the course of one semester. Given pandemic restrictions enacted by

the school boards, most workshops occurred virtually over Zoom. Listening and seeing participants at home in their bedrooms, living rooms, kitchens, dining and study areas was at first unfamiliar. However, their willingness to engage allayed any concerns and I became all the more appreciative to them for inviting me into the spaces they and their families lived, played and, now for some, worked. I asked each participant three questions during our first meeting together to get a better understanding of their musical life and goals. (Appendix E) This helped me build a profile that I used throughout our weeks together. Towards the end of the study as school boards relaxed their protocols I was given an opportunity to meet participants in person and did so for the final three sessions.

Adaptability and flexibility were significant aspects of this study given constraints wrought by a global pandemic. The two partnering music teachers played an especially important role in helping me ensure that activities were understood and carried out to the best of participants' abilities. Both teachers and their students were under immense pressure as inconsistent lock-downs, social distancing and sporadic school schedules sometimes shifted from week to week. All of this had to be taken into account so as to not add any undue strain.

As a result of needing to meet via Zoom, some of the original methods and activities required redesign. In-person improvisational sound games meant to occur during SSWs shifted into activities participants could do in their own spaces, and in some cases on their own time. In SSW1, for example, after introductions and explanations of study goals and expectations, I asked participants to take a ten minute roam through their home, and using their mobile phone's voice memo app, locate and record three sounds they found interesting or surprising. When they returned each took a few moments sharing their sounds and telling us why those sounds resonated with them. This activity offered me the chance to listen to the ways participants

described sounds encountered and situate their reflections within the scope of the research aims and questions. I also used this as an opportunity to walk participants through one of the main methods used in this study — the Sound Collection and Classification (SCC) table. (See Fig. 2.2).



Figure 2.2 | SCC categories

Sound Collection and Classification (SCC) Table

Powered by Padlet, a cloud-based customizable bulletin board, the SCC table was designed for participants to easily upload sound clips they collected throughout the study. A unique link was provided to each partnering teacher with explanations and instructions. Study participants were asked to upload five to seven sound clips ranging from 7-10 seconds in duration per week.¹¹ Most participants used the voice memo app on their mobile phones. Some used dedicated digital recording devices including external microphones they had on hand for their digital music making hobbies and music production ventures outside of school. Seven classification data points comprise the SCC table: 1) sound, 2) sensations, 3) space and time, 4) source, 5) significance and/or context, 6) musical aspects, and 7) musical (re)sound. Data points correlated to the primary concepts and methodologies framing this study.

Once a sound was recorded and uploaded to the SCC table, categories 2-5 offered participants an opportunity to engage critically with the sound by describing any immediate

¹¹ During our final debriefing, my partnering music teacher, Mr. D suggested 5-7 sounds were too many as students were overwhelmed. I discuss this, along with his other useful insights in detail below in the Discussion.

visceral reactions and feelings, logging their location and time of day and reporting any significances sounds had such as memories or connections to their personal-musical-social-political lives. Categories 6 and 7 drew participants into creative aspects of their sounds, opening space for them to think about sounds as musical material for improvisation and composition. Samples collected included sounds made by humans (e.g. eating, talk-speech, chatter, mumbling, gurgling, music practicing, etc.); sounds made by animals other than humans (e.g. barks, chirps, growls, purrs, etc.); industrial sounds (e.g. trains, coffee machine, construction sites, etc.); home sounds (e.g. showers, cooking, closing/opening doors, street sounds (e.g. autos, buses, traffic signals, sirens, persons without homes, etc.); cyber/digital sounds (e.g. mobile phone ringtones, mouse clicks, video games, etc.); and seasonal sounds (e.g. walking in snow, rainfall, thunderstorms, etc.). Sounds shared on the SCC table became a starting point for critical discussions and creative play. Across both high school study participant groups, a total of 60 sounds were uploaded to the SCC table.

Sound Pieces (SP)

Participants were encouraged to use the SCC table as a sound database resource for their original Sound Pieces (SP) — another important method this study used. Originally, two SPs were part of the study design: One, created individually and another as a collaborative effort. Bandlab was the primary DAW participants used to compose their original pieces. Some were familiar with its basic features. Others required a tutorial, which was offered as needed by me and/or the partnering music teacher. Collaborative composition proved to be a challenge via Zoom, given the study’s timeline and external factors facing students and teachers. As such, each participant was asked to instead compose one SP using sounds they had recorded, found online or resourced from the SCC table. Collaboration did occur in the sense that some participants

included sounds in their pieces that their classmates had posted to the SCC table. For example, the birds chirping sound byte in Simone’s piece heard earlier, was actually recorded and uploaded to the SCC table by Anil. Simone layered these chirps into her composition because she found they “fit” with her idea of evoking “nature” on the path to the train station (Simone, G1B, SSW 9). Suzanna’s *Two Cats Purring*, heard above, also used Anil’s bird songs to depict her “chill” Lo-fi day. Similarly, Joel’s “shower” soundbyte in his piece *New York Walking*, was recorded and uploaded to the SCC table by Tracy. However, Tracy’s use of effects to conjure “Mongolian militaristic war drums” (Tracy, G1A, SSW 9) was in stark contrast to Joel’s use of the same sound.

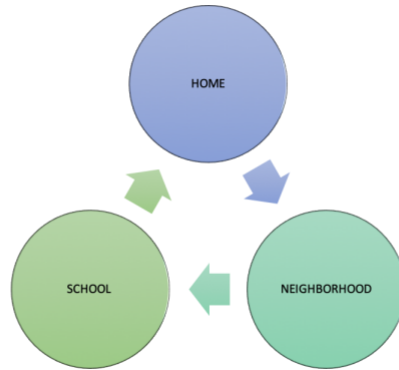
Each sound carried a different meaning and participants repurposed sounds to fit their intentions. Simone succinctly said, “I found it really interesting that we all had the same tools and sounds [at] our disposal and we all created such different things” (G1B, SNJ). This is a point of significance I wish to draw attention to in this study because it shows how opening space for participants to discover and discuss the multiplicity of ways one comes to sense, know and be in the world can potentially awaken an awareness, as Estrella and Bob pointed out, that every *thing* is “ultimately subjective” (G1A, SO!) and open to interpretation — “Nothing is a hundred percent one way” (Estrella, G1A, SO!). Such is a core concept comprising the constellation critical and socially just pedagogies are guided by and seek to catalyze.

The SCC table provided a go-to space where participants could enact what turntablist, composer and educator, Paul Miller AKA DJ Spooky calls, “multiplex consciousness” in a “mix-tape culture” (Miller, 2004, p. 60-62). Remixing, as digital media and critical cross-disciplinary scholar Korina Jocson (2018) reminds us, is to “appropriate, borrow, and blend texts to create new(er) texts... [Its] technique...provides ease in sharing and invites a community to participate”

(p. 50). In this sense, the SCC table facilitated a communal space for sampling and remixing where study participants could recreate mixes representing unique aspects of their life. The SCC table and SP as methods and activities provided that option as study participants drew from it regularly to remix and reorient their relation to/with/against the world and the things via their original sound pieces.

Sound Mapping (SM)

Another method this study used was Sound Mapping (SM). Sound mapping was a solo venture for study participants to open their ears to new and old sounds in spaces and places familiar. Specifically, participants were asked to sonically trace their movement across three different locales: home, neighborhood and school. This method served a two-fold purpose. First, to reorient participants' perceptions about places and spaces frequented, yet oftentimes unheard. Second, to turn participants' ears towards sounds possibly 'out of sync' in their environment (See Fig. 2.3)



?'s To Think About

- Where are you sonically in a space/place?
- What sounds indicate that space/place? Recreate that space/place via sound clips.
- What sounds seem to belong there? Explain.
- What sounds seem strange, or out-of-sync with the space/place? Explain.
- What sounds do you expect to hear, and don't? Why do you expect to hear them, and why do you think they are not present?
- Can you hear a rhythm in the space/place? Can you clap it, beat-box, or imitate it in your own way?
RECORD THAT TOO FOR FUN ☺
- Can you detect musical pitches (e.g. high/low buzzing of bees, train crossing bells, busking)?
- Does a space/place have a unique timbre associated with it (e.g. whizzing of autos on highway, street party, school corridor during passing bell)?

Figure 2.3 | SM Activity Prompt (supplement)

The following served as a written prompt:

Your task in this activity is twofold. First, try to collect sounds that sonically trace your movement from one place to the next. For example, how does a walk from home to a neighborhood convenience store sound? Or, the trek from home to school and back? What sounds the same *going to* versus *returning from*? Think about how the time of travel (morning, afternoon, evening) between the same space/place changes sonically. Second, listen out for sounds that seem out of sync with the spaces/places you travel. For example, if you are in a neighborhood park you may hear the laughter of children playing or squawks from feisty geese. A park is generally considered a serene space. Are there sounds that are not so serene to your ear? What are they? What/who is making them? How does it make you feel? (See Fig. 3)

Sound Mapping was meant to provide an alternative space for dynamic listening, critical reflection and creative reinterpretation. Sounds collected from this activity were also uploaded to the SCC table and used by study participants as creative critical material for reengagement in the SSWs and their original SPs. Driven by their interests in VR (Virtual Reality), gaming and OST's (Original Soundtrack), some participants (as heard above) took on personas and decided to sonically map narratives of characters inspired by their imagination. While this was unexpected, it was welcomed and did speak to the ways these kinds of sound based activities intersect with participants' lived experiences — realities both 'real' and virtual.

Sonic Narrative Journal (SNJ)

The Sonic Narrative Journal (SNJ) was a method used to gather study participants' reflections and insights about their experiences during the study. They were asked to keep a personal record of events, observations, critiques, surprises, musings etc. about their experiences listening, creating and thinking in/with/to/through sound. Participants could use drawings, poems, stories or any other medium they found comfortable to express themselves. Some chose to write. Others chose to record themselves speaking. While there were no specific prompts for the SNJ, participants were provided with some points to consider as they kept track of any: surprising discoveries, challenges or entanglements, connections to music, social and personal life, differences/similarities to familiar ways of engaging music, feelings/thoughts while creating, future orientation (i.e. how, and in what ways could sound based methods be employed in musical learning) and any grunts, gripes, wishes and take-a-ways. SNJs were not shared with other study participants. They were collected at the end of the study and used in my analysis to locate connections to the research questions, pinpoint participants' progress by comparing their reflections with statements shared and conversations had during sessions.

Method Modifications

As mentioned above, adaptation and flexibility found its way into this study's design and its methods. As a result, three methods originally planned at specific intervals during the study were collapsed and integrated into Sound Session Workshops (SSWs). One was excised altogether. Under Construction (UC) was to occur mid-way through the study and provide participants opportunities to share their original sound pieces in progress and gain feedback from their classmates, using Liz Lerman's Critical Response Process as a template.¹² The Sound Table (ST) was planned as a focus group session for participants to share their final reflections and critiques. Prompts for this included questions related to 1) musical identity and future goals, 2) any perceived benefits musical and otherwise listening to their environment may have had and 3) their favorite and challenging moments faced while thinking and creating with sounds. Sound Out! (SO!) was to be the final concert/performance.

SSWs were originally planned as sessions for group improvisation and collaborative composition games and activities for participants to practice playing with sounds and thinking sonically. However, because SSWs were mostly held virtually and participant absences due to illnesses, faulty internet connections, and other unexpected issues presented themselves, my partnering teachers and I decided that SSWs were best suited if we allot time for participants to work on their original sound pieces as much as possible. Thus, after a brief check in at the beginning of each session, the first half of SSWs offered opportunities for participants to share their works in progress — integrating UC and SO! methods. The remaining time was for them to continue working on their pieces. This adaptation worked out well as it alleviated some of the

¹² https://lizlerman.com/wp-content/uploads/2020/04/Critical-Response-Process-in-Brief_CRP-one-pager_updated-2020_03_24.pdf

external anxiety participants had during the study (e.g. homework from other classes, quarantine, unexpected international travel due to family illness, etc.) and gave them ‘in-class’ time to work on their compositions. The final SSW became both the SO! and ST so that participants who until then had not had an opportunity to share their completed sound pieces could do so. Then, we moved into the ‘focus group’ (ST method) phase where participants shared their final reflections and critiques and responded to the three prompts articulated above. (Appendix F)

When we were able to meet in person some of the first things we did were activities and games like Pauline Oliveros’ *Environmental Dialogue VII* (G1A) and *Sound That Place* (G1B). Oliveros’ text score opened a space for participants to listen in person together to sounds surrounding them inside/outside of the classroom, and engage sounds they heard by humming, singing, playing musical instruments or body percussion etc. A recording of this may be heard on the G1A Playlist. In *Sound That Place*, participants were given small blank pieces of paper and asked to first jot down places they had either been to or would like to go, and then to compose a short piece portraying those places. The papers were placed on the white board and after participants shared their pieces we got to guess which places were being sounded. While this activity was abruptly cut short due to an alarmingly loud school fire drill, we did return to it briefly the following week (our second of three in-person sessions together) and it provided insight into the various countries, cultures and identities this particular group of participants represented. In each instance — Oliveros’ piece and *Sound That Place* — conversations that simply did not happen virtually emerged and thus provided a rich opportunity for connection.

For example, I learned that some study participants’ families had immigrated from places like Syria, India, Dubai, Jamaica the Caribbean and Guyana, Portugal and Trinidad. I was reminded of the first day I arrived at the high school. After a two hour drive from my home, I

turned left onto the street where the school was located and immediately to the right heard the piling machinery of construction. Later, participants told me that a new community center and “temple” was being built: *a spiritual place for the gathering of all Hindus and like-minded souls to unite and take part in Pujan, Kirtan, Sewa, and listen to Pravachan*. After the school receptionist called the classroom to alert Mr. D, my partnering teacher that I had arrived, she spoke about how much she enjoyed the teachers and student body because of its diversity. When Bling Dawg came to meet me at the reception counter to walk me back to the music classroom, he was warm and friendly in a mature and weathered kind of way, a bit tired. I learned later that day, as we were walking back from the fire drill that he worked long hours after school at a grocery in the butcher shop to help support his family.

Over the course of three in person SSWs, I also became more curious about the undercurrent of Anil’s comment — “our generations’ sense of humor” — and began to think about the intergenerational experiences newcomer families face in unfamiliar spaces and places and the vulnerability that brings. Collecting sounds can signify a recollecting of memories from far away: ancestors’ smiles, laughter, cries and gripes; glistening seas and rivers; wandering scents; whirring breezes of wind upon faces and bodies that have been displaced — relocated to some space away ‘promising’ a hard restart. I recall Chinese-born American geographer Yi Fu-Tuan’s (2001/1977) insight that “Place is security, space is freedom: we are attached to the one and long for the other” (p. 3) and in the between negotiate and navigate both to (re)/construct a sense of self in relation to Other and the world and the things, including sounds. In this context, the improvisation game *Sound that Place* took on a greater significance than I had ever imagined, and although it was disrupted by the fire drill and did not at all produce a ‘product’ as

I had planned, the process it led me and the participants through facilitated a connection that had not yet been felt in the same ways via our virtual sessions on Zoom.

Another modification to the methods was the Sonic Score Visualization (SSV). Meant to be a companion to participants' sound pieces, the SSV was to be a graphic representation via drawing, painting, collaging, chalking, inking, photographing, etc. of participants' original pieces. Unfortunately, this method did not make it into the study. Time was the main factor for making this decision. Another factor, as expressed by one of the partnering teachers was the general need for participants of this "age group" to have "exemplars" (Mr. D, G1B). While SSW3 did offer graphic score examples, it was evident from the faces on the screen that this method would work best in person and with more time. From my experience with an undergraduate music major participant group, this method lends itself to being in person where one can draw, perform and assess their scores in the moment (See Article 3). While some familiarity with notation might be useful, it is not necessary as literature in our field has shown (Hickey, 2012; Upitis, 2019/2009).

In playing around with the methods in ways we did, I noticed how their interchangeability did not diminish participants' overall experiences. Nor did it disproportionately impact the effectiveness for generating and gathering sufficient data. In this way, the methods proved useful for future research studies, and equally significant, can be of value for teachers and their students to use in their classrooms.

Study Limitations

COVID- 19 related circumstances resulted in data collection delays and interruptions as described above. Other limitations included participants' use of the SCC table powered by Padlet. The 7 horizontal rows did not always line up with the columns as participants uploaded

their mp3/m4a/wav files. As a result, participants did not always complete inputting their data in the fields required. During the study, I attended to the SCC table, and for the purpose of analysis, copied and pasted each completed data point (i.e. all 7 categories had been filled out) into a separate Excel Spreadsheet. In the future, I will address the issue with Padlet or find another cloud-based bulletin board solution to alleviate this stumbling block and better facilitate participants' flow.

Sample size is another limitation to consider. While 18 participants is an appropriate size for a study of this nature (i.e. qualitative, phenomenological), it is a small group of participants, in a particular place and space and at a particular time. It is good to know that their experiences interacting with the methods generally went well, and that they found the activities fun, educational and useful to their musical practices. In the future, partnering with more than two music classroom teachers across grade levels and courses could elucidate ways the methods might be applied; offering more variation. For example, how might the methods play out in choral and instrumental settings? How would sounds collected be recontextualized and resounded with acoustic musical instruments and voices? How might ensemble directors and their students in middle and high school interact with the methods? These are questions for future orientation and collaboration.

Another limitation, one more personal, is that while it is true participants and their teachers had the COVID-cloud hanging over them, so did I. A fatigue that I am generally unaccustomed to experiencing set in my body and mind impacting my ability and capacity to feel that I was completely present in every interaction during the study. That the study suffered delays and disruptions from the start and continued throughout could have also impacted my ability to feel grounded to the material and thus assimilate data in timely and mindful ways. This

could have impacted the richness of the data collected. Another reason to consider future orientation in working and thinking through the methods in less hectic, disruptive and draining times.

From Voice to Purpose: Participant Sounding their Creative Critical Views

This article features five primary entry points, or what I have called *soundcurrents*, for listening and engaging with high school music study participants as they share their perceptions, reactions, responses and insights related to their experiences listening, collecting, critiquing and creating with sounds from their everyday life. In what follows I highlight participants' projects and stories. Weaved throughout their stories supportive literature emerges, framing the work within a larger academic context, while allowing the voices of participants to take a primary space. The themes and findings emerge through listening to what participants have to say about their experiences thinking and creating with sounds from their everyday life.

This article also makes use of multimodal ways of knowledge sharing. Thus, SoundCloud listening links are available for readers to become listeners and reflect as they engage with student voices. When listening links appear at the top of a soundcurrent, they feature original sound pieces created by study participants. I discovered during my data analyses that repeated listening to ambient sounds of the music classroom and its surrounding halls and corridors added sonic context to the stories as they unfolded. This pleasant surprise was an appreciated reminder that music classrooms and schools are alive with the sonics of shuffles, sighs, laughter, squirms, sneakers, chairs, doors, zippers and an array of attractions that are not necessarily distractions as much as they are openings into the everyday worlds of students and teachers.

By presenting this article in this way, it is my hope that the listener/reader can delve into the stories, lives and experiences these high school music students have to share.

soundcurrent 1 | “from zero to one hundred real fast”

Listening Link: <https://on.soundcloud.com/Xf8My>

The piece starts. A steady muffled synth bass drum sets the tone. Heads and feet are bopping and tapping to the beat. A soft electric guitar synth pad plays a catchy riff consisting of a triplet on beat one followed by twelve sixteenth notes creating a syncopated effect. The melody sounds like the opening theme to the 1980s TV action crime drama, Knight Rider, featuring KITT an advanced artificially intelligent (AI) self-driving automobile; perhaps Tesla’s predecessor? Twenty seconds in, the melody gives way to quick successive percussive pops Rat-tat-tat-tat, Rat-tat-tat-tat, Rat-tat-tat-tat. Then a chorus effect washes over. A few heads jolt, visibly “shook” albeit still attentive. A house, jungle dub-stub groove takes over resettling our ears away from the Rat-tat-tat-tat into a feel good dance floor vibe. At forty-nine seconds in a hi-hat, cymbals and shakers swing a funky beat, particles reminiscent of Issac Hayes’ theme to Shaft. Five seconds later a metal rock guitar synth sounding like a track from System of a Down reinforces the earlier bass drum beat. Once again heads and feet are bopping and tapping. Fifteen seconds later and right on beat: tcha-klick, tcha-klick...Boom! Stillness reverberates as a wash of wind or rain or fuzzy static calms the shock of tcha-klick, tcha-klick...Boom! Boom! Seconds later, a light-hearted melody moves my mind a bit away from tcha-klick, tcha-klick...Boom! A heavily chorused and reverb synth pad builds intensity and a sense of serenity into some strange new place. The piece stops. (Researcher’s Crossfades from the Field)

Entanglements Across Imaginary and Real Worlds

Anil is fifteen years old, fiercely smart and serious. What came across as shyness upon our first in-person meeting quickly faded. He is funny in a provocative and kind way. His humor is sometimes hard to see through the COVID mask, but it's heard and felt because Anil has a way

of laughing, talking and interacting that uses his whole body. He is animated and quick on his feet in conversations, sometimes interrupting his classmates, but never rudely. He is enthusiastic to add his ideas and opinions to the mix. Cy, Anil's classmate, is also fifteen years old, laid back and has a way of bringing in revelatory stories about his Greek family, particularly the sizzling sounds of his grandmother's cooking that whets his appetite every time he goes home. He admits,

Sometimes I have a very loud house cause I'm I'm from a Greek family and I live with my grandma [chuckles], so it's always gonna be loud. Sometimes, this is gonna sound so stupid but when my grandma's cooking food it sounds super satisfying sometimes because the way, obviously grandmas are the best chefs I'd say, so when she's stirring like the pot or the spoon around, sometimes they make like a very cool noise. I don't know how to describe it, but it sounds almost bubbly kinda' (G1B, SO!

<https://on.soundcloud.com/FGwDL>)

Perhaps it is Cy's comfortability with loudness in his environment that allows him to possess what seems a sense of ease for self expression and debate. When asked to consider any distinctions between sound, noise, silence and music, study participants often equated loudness with noise, or as Bob termed it "a jumbled mess of annoying noise" (Bob, G1A, ST).

However, as sound artist, activist and philosopher Salomé Voegelin (2010) asserts,

Noise forces the listening subject into the critical ring...into moments of experience.

Noise is the desire to communicate, to seek and practise signifying, not however its meanings. Those are practised in silence, contingently, reciprocally, centrifugally...[for] silence is...the beginning of listening...as a generative process. (pp. 65 & 75)

Thus, it was into the ‘critical ring’ that Cy and Anil went in response to Anil’s sound piece. Back and forth for approximately nine minutes they grappled discussing whether or not violence in video games may have had a hand in the Uvalde, TX USA school shooting; two weeks prior to our final sound session workshop. Their discussion segued into a series of serious reflections about why video games should not be blamed for 18-year old Salvador Ramos’ fatal shooting of nineteen students and two teachers at Robb Elementary School. Instead, both Anil and Cy came to a conclusion that it is a complex combination of policies around gun control, mental health and personal lives gone askew that should be blamed for what Jay Caspian Kang calls, “the museum of unbearable sorrow.”¹³

As many other students in the entry level Music and Computers course taught by their music teacher Mr. D, Anil and Cy live, laugh, compete, play, learn and build strong friendship bonds via video games and virtual reality (VR) platforms. Growing up with no gaming experience in my home, I had much to learn from students’ lived experiences, and during our semester together they were eager to share with me how their virtual and real worlds coalesced and created for them meanings and ways of sensing, thinking and being.

In his chapter, *Worlds as Experiments*, Edward Castronova (2018) a media studies scholar specializing in games, technology and society echoes Anil’s and Cy’s sentiment

Do violent media cause social violence? Or does social violence cause violent media?

Yes. As a result, historical trends in media violence and social violence cannot be disentangled. Not only that, but everything else is affecting the system as well: income, family structure, education, and culture. In social systems, all affects all, and all affects how we think and what we do. Determining cause in social data is well-nigh impossible.

(p. 299)

¹³ <https://www.nytimes.com/2022/05/26/opinion/uvalde-texas-shooting.html?smid=url-share>

Drawing from drama, film, anthropology and comparative cultural studies, Lily Alexander (2018), a fictional world-building (FWB) media scholar says, “The harm is done when stories demonize minorities; fallen victims or accidentally shot bystanders are not given *second thought*; dramatic conflict resolution is replaced by explosions/violence” (p. 263 Italics added). Anil and Cy seem to exemplify what giving a second thought to the ‘imaginary’ people, places and scenarios presented in the games they play may look like. In so doing, they show how a level of awareness and engagement with the world and the things, when exercised, carries potential to foreground what it may mean to be humane in ‘real’ world encounters and relationships.

It is in the “second thought” where a space is carved for one to pivot and reorient their relationship to the world and the things — virtual, or otherwise. (See Coté et al., 2007, pp. 317 & 328) ¹⁴

soundcurrent 2 | “noticing the small things and how their sounds work”

Listening Link: <https://on.soundcloud.com/Y8oDC>

I want to say, ah, I hope, I feel like listening more whether inside or outside. You’ll notice like the small things and like how their sounds work, and it’ll help you be more aware of your surroundings, not in an overwhelming way, but just more like “oh, I notice that and I notice this”. You might even become more grateful because of it because like you’ll hear all these things and you’ll be like “I never heard that before and that’s really cool” and stuff like that.
(Simone, G1B, SO! <https://on.soundcloud.com/z7Asn>)

People are going outside more so they can be active especially since we’ve been inside the school for over two years [shakes head] three, like we’ve been cooped up inside our houses

¹⁴ In the following link, you can hear Anil describe his final sound piece composition (<https://on.soundcloud.com/88bvo>). You may also listen in on Cy and Anil’s complete conversation (<https://on.soundcloud.com/Me5f1>).

for so long it gives a reason for people to go outside get some noise, get some fresh air and everything. Also, people get to listen to around like live sounds outside that they don't hear usually and it gives people like they listen more to different things they can think about 'oh, I can add this and this to my project. (Bling Dawg, G1B, SO! <https://on.soundcloud.com/rKAfU>)

Listening Link: <https://on.soundcloud.com/QcRZk>

I love cats and have two cats myself. I added a cat purring sound to my project. The sounds I uploaded onto the [SCC] are relaxing sounds for me. (Suzanna, G1B, SNJ). (Fig. 2.4)

Volumes of the sounds:
Secret crates - springtime stroll -1.7dB
Keyboard typing sounds -6.8dB
Chillwave -8.4dB
Cat purring sound +6.0dB
Rain falling -1.3dB
Walking outside +0.2dB
Bird sounds -14.1dB

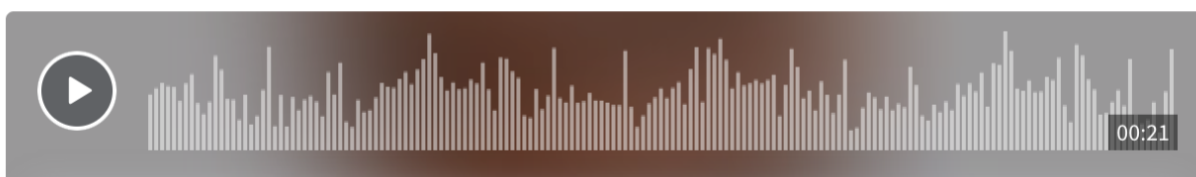


Figure 2.4 | Suzanna's Lo-Fi "Two Cats Purring"

Detangling Distance from Detachment via Resonanz

The impact of COVID-19 on students' mental health and well-being is already being well documented as "unprecedented disruptions" in children and adolescents' lives contributing to an increase in their anxiety, depression, fatigue and distress (Elharake, et al. 2021).¹⁵ Pandemic disruptions have also reverberated and been felt among music students and their teachers as well as music students' parents (Miksza, et. al, 2021; Parkes, et. al, 2021). The 18 high school music student participants in this study were no exception. Indeed, as heard during Cy's and Anil's

¹⁵ Impacts were also witnessed in university music students. See Article 3 for that discussion.

conversation above, mental health is something of which they were well aware and versed. Of particular interest as it relates to this study, whose entire backdrop was the pandemic, is what role, if any, could everyday sounds play in reorienting and navigating one's relationship to the world and the things. The isolation of remote learning, school closures and health regulations informing social distancing policies led to a profound "silence...including the sense of alienation and isolation" (Losiak, Tańczuk & Wiczorek, 2023, p. 22). However, silence does not mean an absence of sound, nor does distance demand one be detached.

The primary conceptual frame guiding this study stems from German social theorist, philosopher and educator Hartmut Rosa's offering of *resonanz*.¹⁶ As part of his larger critique of late modernity's frenzied *alienation* from self and other human/nonhuman beings, he has developed an educational analytic highlighting our relationship to the world via bodily senses wherein sound, voice, hearing and listening are necessary for connecting and creating meaningful interaction and engagement with the world and the things. For Rosa (2020), "Education in the sense of resonance theory...is aimed not at cultivating either the world or the self, but rather at *cultivating relationships to the world*" (p. 241, Italics original). Two key ingredients for cultivating such relationships "require *encounter*...and the ability to both touch and be touched" (p. 11) — which the pandemic practically prevented.

However, when listening to Simone's sonic trek it is evident her intent was to create encounters and to make meaningful connections. Her footsteps signify presence and movement in/with the world and the things. Her 'brush' with and against the contacts she made — tweeting birds, whirling automobile engines, growling helicopter, passerby's cough, murmuring train station crowds, squeaking sneakers, jingling keys, faint sounding saxophone playing on the food

¹⁶ I am grateful and indebted to my colleague Johanna Borchert in Freiburg for sharing with me Rosa's work and pointing out its connection to my research project.

truck's radio and train bell, as well as the brushing of her mobile phone inside her jacket pocket against her breathing body — is a literal and figurative manifestation of purposeful encounter in process. In describing her original sound piece composition, Simone said, "I've kind of always liked the sound of nature and now I am getting out more into the city and hear the sounds of the city, so I kind of wanted to put both together" (Simone, G1B, SO!).

Simone, like all study participants, put her sounds together through a process that Deweyian scholar and Canadian educator Margaret Latta calls *aesthetic play*. For this study, aesthetic play was operationalized via improvisation and composition activities mostly using digital audio workstations (DAWs). For Latta (2013), "Aesthetic play opens into and cultivates the practice ground to deliberately engage the world" (p. xiv) using all of the senses relationally. Like Rosa, Latta articulates "encounters" and "embodied understandings" as "elemental" to being human (p. 17-18). It is "*on our feet...*[and] the certainty that the ground we stand on will bear us up" that offers "*ontological security*" allowing one to feel "*situated in the world*" (p. 47, Italics original). Both Latta and Rosa echo Merleau-Ponty's (1962) notion that the "body is the fabric into which all objects are woven, and it is, at least in relation to the perceived world, the general instrument of [ones] 'comprehension'" (p. 273).

As it was bodies being broken down — physical, social, institutional and political — via COVID- 19, police brutality, Trumpism, food insecurity, school lockdowns, global warming Putin's invasion on Ukraine, etc. it is no wonder there was a spirit of global dis-embodiment, dis-ease, dis-illusion and dis-orientation. It was and is our situated-ness collapsing; the feeling that the "rug has been pulled out from under us" (Rosa, 2020, p. 47). The pandemic amplified in stereo fidelity distortion between left and right attitudes, values and ways of being that still today are tugging at the fabric of society and probably will for some time more.

Seeking comfort, health and wellness was something participants spoke to, and specifically how by tuning in to sounds from their environment helped “relax” and allay some of their anxiety. Suzanna’s Lo-fi piece above was inspired by the comfort her two cats bring to her life. However, this is not the case for everyone as Stéphanie pointed out when she said,

I think this is important because sound is even if you’re not like a musical person sound is always around us and even when you don’t have sound you’ll start to hear things and you might start to go a little crazy. The same thing, ah, they’ve done experiments with a single tone that’s like high pitched and they’ll play it for hours a day and people start to lose their minds with that one sound. So sound does effect us, and for me personally, I have a slight sensory hyper sensitivity so too much sound is overwhelming and no sound would be even more overwhelming. And it’s even worse for certain people like autistic people, sound is very important to them...Sound is everywhere and can effect us in so many different ways emotional way, physical so I think it is really important (G1A, ST)

Listening Link: <https://on.soundcloud.com/2jCQn>

The “experiments” Stéphanie is speaking about aligns with the work of sound studies scholars Steve Goodman (2012) and J. Martin Daughtry (2015) whose research into sonic warfare delineates the grotesque ways humans use and manipulate sound and music to madly stir an ecology of fear and trauma that reverberates long after the battlefield. Participants and I discussed the sonic attention news journalists growingly share, related to the sounds of missiles and bombs unsettling the lives of Ukrainians. In his interactive Opinion piece, *The Piercing Sound of Ukraine’s New Reality* published in the New York Times, Ukrainian novelist Lyubko Deresh recalls, “Friends gossiping in parks, the gurgle of fountains, stores playing pop music —

these were the sounds of Kyiv in the Spring. Now we live our lives to a soundtrack of air raid sirens.”¹⁷ He adds,

Since Russia invaded on Feb. 24, the air raid sirens in Kyiv have gone off more than 300 times. In this time, Ukrainians, Kyivans especially, have undergone serious changes in how they perceive the sirens: Our psyches, in losing the ability to react quickly to stress, have acquired their own armor, and the acuity of perceiving danger has been dulled.

(Ibid.)

Study participants expressed surprise, curiosity and sadness that sounds could be carried to such evil ends. Deresh echoes Stéphanie’s point about people “going a little crazy and starting to lose their minds” as their sensibilities become stunned and numbed by dangerous and powerful sonics at play in the spaces they are living, working, playing, breathing and in these instances, dying. Composers, sound artists and sonic thinkers, Bruce Odland and Sam Auinger (2009) refer to such spaces as, “Sonic Commons... any space where many people share an acoustic environment and can hear the results of each others activities, both intentional and unintentional...The sonic commons is full of asymmetry” (pp. 64-65). The intentional sounds of annihilation are tortuous and indeed asymmetrical to any semblance of sanity, security or peace.

For me, participants’ insights into these deeply complex yet important current events, reiterated the significance an attention to sound can play in the music curriculum. It also made me realize that the questions I asked participants to consider about sound, noise, silence and music and the relationship they have with them are relevant to their current lived experiences.

¹⁷ <https://www.nytimes.com/interactive/2022/05/03/opinion/ukraine-air-raid-sirens.html?searchResultPosition=2>

What is more, these high school students were interested and invested in having these discussions even though they were outside of their normal music classroom conversations.¹⁸

When listening back and rereading Simone's and Bling Dawg's response to my question, *What do you feel are the benefits, musical and otherwise of listening more closely to your environment* (ST Q.2), I am reminded that going outside to "get some noise" may be a welcome relief for some who have been "cooped up inside." For noise, as Michel Serres (2021/1985) reminds us, begins "within the body and emerges into language via the sounds of the earth" (Dyson, 2014, p. 13). It is in noise where one may reorient their bodies, minds and ways of sensing, thinking and being because it "unsettles, the infrastructure...breaks...forces the listening subject into the critical ring...[and] urges us back into communication not as translation but as a transfer between sensibles" (Voegelin, 2010, pp. 65 & 71). For Serres (2021/1985), sensibles refers to "our moving relationship to the world" and how our "local and particular individual" ways of sensing, knowing, being and connecting "mingle" with and between self and others (p. 305). In noise, there is a possibility to entertain such mingling, to pivot and reorient so that we may feel a different and other grounding on which to situate our feet.

Sonic exploration and excavation offered high school music study participants opportunities to use their feet *and* ears to create encounters, to touch and to be touched and, as Bling Dawg said, "to get some fresh air." Getting outside to get some noise and fresh air was not possible for some high school study participants. Tracy, a sixteen year old in Mr. V's General Music class was in quarantine during most of the study as he had family members who were health care workers and others in his household that were immunocompromised. In the next soundcurrent, his piece "Bathroom" along with his classmates Bryce's "A Typical Morning" and

¹⁸ In this discussion, study participants discuss the question, "Why is it, or not, important to listen to sounds in our environments?" and share their thoughts on distinctions between sound, silence, noise and music [Listening Link:]

Joel's "New York Walking" are featured as we examine ways everyday sounds can influence musical creativity while simultaneously bringing one into the critical ring.

soundcurrent 3 | "stuff from your everyday life...can bring out the creativity"

Listening Link: <https://on.soundcloud.com/ggkKH>

What kinds of things can happen when constraints are in effect? When do perceived limitations become possibilities? And, in what ways might consciousness be expanded as spaces typically traveled everyday become ghostly unfamiliar and new? Tracy's piece brings up these questions for me as I listen to how he plays with familiar sounds of shower doors and spouts, rushing and flushing waters and the squealing Velociraptor like sounds of the faucet turning on and off. There is a persistence at play in this piece that extends beyond the explicit percussive elements. While "science fiction" may have been partly Tracy's inspiration, I am curious if the beating drums could also signify a subconscious personal (and perhaps) personal (and collective) insistence to push beyond the boundaries of isolation and quarantine. Something to ask, maybe? I don't know. (Researcher's Crossfades from the Field)

Listening Link: <https://on.soundcloud.com/eD3Rb>

First, I thought I wanted to do like someone's day, but I couldn't really be like super specific with that. But, if I were to do someone's morning cause a lot of people have different kind of morning routines, right? So, a lot of the stuff in this morning is the stuff that I do like in my morning, like you get up you know you kind of dread the day, but then you kinda like have to start your routine like getting everything going and you ah. I honestly just thought that if you were to take stuff that are from your everyday life and you just add a bit more detail to it then that can kind of bring out the creativity. (Bryce, G1A, SO!)

I discovered that sound is something we don't pay as much attention to as I might have previously thought. There are numerous sounds of which I hear everyday, but didn't realize until I started this project. For example : the sound my backpack makes when I pick it up and put it down, my own footsteps in different environments such as snow or a hardwood floor. (Bryce, G1A, SNJ)

Listening Link: <https://on.soundcloud.com/Ttaoc>

The gunshot and siren startled me. They were unexpected. What sounded like an 1980s easy listening soundtrack for a leisurely stroll through town came to an abrupt end — a literal and perhaps figurative final silence. Joel's pause and then emphasis in the phrase, "well, I, [short pause] the person [long pause] died" leaves me thinking who and why. The literal death we learn later was not self-inflicted. It came from the outside; from the dangers of the city. However, for Joel, there was something about his protagonists' lifestyle that was more dangerous and eventually deadly to their soul and spirit. It was, according to Joel, the "annoying...daily routine...of a miserable guy at a desk job" that disconnected him from being in the world. I'm watching Joel's masked face via Zoom as he describes his process and I wonder how his creativity and imagination brought him to feel and articulate corporate capitalism's dead end. (Researcher's Crossfades from the Field)

Creativity enters the critical ring

Creativity is one of those concepts, whether in music education or elsewhere that is fully loaded. Or, as Finnish music educator Sari Muhonen (2010) quizzically asks, "a slippery slogan" (p. 86)? Yes, it is! That is to say, creativity is manifold in perspectives, theories, applications, speculations, hopes, promises, dreams, quips, arguments, contradictions etc. Indeed, "an examination of the history of research on creativity suggests that many ideas and issues have

been discussed literally for hundreds of years” (Runco & Albert, 2010, p. 3). And, understandably so I think, as creativity at its essence is a bringing into being some *thing* signifying a lifeforce of its own (animate or inanimate) that was not before present in the world, or, at least not in the ways previously perceived. In this sense, creativity is a vital act, a dialectical dance between processes and production mirroring aspects of a Divine, particularly if/when one can claim, *it is good*. Models of creativity forwarded across the fields of psychology, education and economics identify invention, innovation, originality, usefulness, fluency, flexibility, elaboration, and convergent and divergent thinking central aspects of creativity (Amabile, 1990; Gardner, 1993; Guilford, 1950; Kaufman & Sternberg, 2010). Creativity scholars Peter Webster and Clint Randles have posited a definition of creativity based on models they have designed and shared specifically pertaining to the field of music education:

Creativity in music refers to the divergent and convergent thought processes, enacted both in solo and in ensemble, that lead to musical products that are both novel and useful, within specific sociocultural contexts, manifested by way of specific modes of musicianship or combinations of modes that can include but are not limited to the following: improvisation, composition, performance, analysis, and listening. (Randles & Webster, 2013, p. 420)

In 1990, the *Music Educators Journal* (MEJ) published a *Special Focus Issue on Creativity* advancing the field’s unique perspectives around music learning and teaching.¹⁹

Related to this study’s aims and concepts, creativity architects within the field articulated the

¹⁹ While this special issue does lay early groundwork for creativity in music education, its’ focus on musical products are apparent, as well as musical examples that lean towards canonic works of western classical music. This is addressed in Article 1.

pedagogical value of sound, specifically in fostering “the ability of children to imagine in sound” (Peter Webster and Alfred Balkin) and allotting space within the curriculum for “exploring environmental sounds” via listening to recordings that feature “animal sounds, human sounds, nature sounds, familiar household item sounds, or sounds from trains, automobiles, and other vehicles” as well as students “own examples” (Janet Moore). The methods designed and employed in this study, as described below, offered participants ways to collect and classify sounds from their everyday life, and to connect those sounds to sensations, places, spaces, memories and musical imagination.

Revisiting the special focus issue twenty-five years after its publication, Webster (2016) strengthens curricular arguments for sound as a way of sensing, knowing and being musical, and augments creativity’s role in potentially addressing “non-sonic considerations such as gender, student and teacher identities, meaning-making as it relates to social context, aspects of student collaboration, and youth culture” (p. 28). Citing Pamela Burnard’s work on “creativities,” Webster suggests that “more inclusive...sociocultural considerations...[and] more authentic ways to study creativity” may be found in “more real world-based explanations for how creativities work” (p. 28). However, what should be noted, particularly in current climate around the so-called ‘creative industries’ and its’ ‘creatives’ is that such real world-based explanations for how creativities work are too often fueled by economic agendas that coopt notions of innovation and invention to meet market means and ends; thus placing creativity and imagination in a state of “crisis” (Haiven, 2014).

Halifax-based social movement activist and scholar, Max Haiven (2014) notes, Since the 1970s and the dawn of the neoliberal period, capitalism has entered a new amplification of consumer individualism, commodification, ideology and

adaptability...Concepts like education, the imagination, the commons, creativity, memory and the public have been largely brought into the conventional capitalist imagination...[and] have become key props in the capitalist melodrama. (pp. 9-10)

Such ‘enclosure’ is echoed by Benedict & Schmidt (2014) who contend, The familiarity of creativity and innovation as the story of us has indeed made our relationship with those two terms quite problematic, often drowning criticality, consciousness, and responsibility...we must ask ourselves how to re-engage with these terms in the twenty-first century. (p. 80)

One slice of the ‘story of us’ can be heard in former chair of Education Commission of the States, Mike Huckabee's speech during MENC's Centennial Congress in June 2007. On that occasion he presented strategies for advocacy and arguments for the inclusion of music in the curriculum because “Corporate CEOs are looking for ‘[and] need people who are disciplined...innovative and creative. We need people who understand how difficult it is to prepare for the big picture’” (Edgar, 2011, p. 51). A significant problem with the big picture, as it was then and is even more so currently, is that it is distorted as “capitalism [has] transformed everyday life into a world of artificial relationships, mediated by commodities, money and unquestioned routines” (Haiven, 2014, p. 233; See also Debord, 1994). Thus, the “dark side of creativity” presents itself (Crompton, et al., 2010; McLaren, 1993). Or, as Nadine Kalin (2016) calls in her piece, *We're All Creatives Now: Democratized Creativity and Education*, “colonized creativity” (p. 34-35; See also Frank, 1997, Linn, 2008; Rushkoff, 2001).²⁰

²⁰ Douglas Rushkoff's Frontline expose documentary “Merchants of Cool” offers a “Curricular Connections” supplement that can be useful for engaging critical dialogue <https://www.pbs.org/wgbh/pages/frontline/teach/cool/>

Joel's sound piece, *New York Walking*, like Bryce's, *A Typical Morning* as well as Tracy's, *Bathroom*, speak to routines — those sequences of actions that become familiar, patterned, drilled, fixed, conventional, common and often unconsciously carried out every single day. Tracy's routine was impacted and interrupted by having been in quarantine. Delving into his love for science fiction, he innovatively made use of the limited sounds at his disposal to bring our listening ears into his fantasy.

Bryce's use of sounds to portray his routines started with his high-pitched alarm clock, and a stretching yawn. Then, the morning habits of teeth brushing, showering, getting dressed, eating and enjoying breakfast, washing breakfast dishes (what a great kid!), packing up lunch and school backpack, opening the door to leave, forgetting something, coming back inside, closing the door once more and finally off for his trek to school.

And then, Joel's dramatic narrative, not about his routine per se, but of someone who was unhappy, "some miserable guy at a desk job" caught in a monotonous rat-race. Rosa (2020) would say such a person is experiencing alienation, or borrowing from Rahel Jaeggi, a "relation of relationlessness" wherein "the world...appears cold, rigid, repulsive, and non-responsive" (p. 184).

I don't know if Joel knew anyone like this. I don't know if Joel felt that way himself. Or, if in his creativity and imagination he wanted to turn our ear towards New York City's violence. I do know he said he has never been to New York and has always wanted to visit. What I did gather from listening to him during our sessions together and seeing him in his very clean and orderly room while we were on Zoom, was someone who cares very much about his relationship with his family and friends. I felt in him a sense that he is sensitive and takes his time moving in the world. He is attentive, detail oriented and thoughtful. There were times, I must admit, that

when listening and assembling the sound file above, I, in my own impatience, wanted to use Audacity's editing features to shorten the long pauses between Joel's reflections. I could see across the screen the wave forms moving slowly and thoughtfully between each other. I stopped myself as I realized that his pace is part of the depth of his perception and expression. And, it is his rhythm to which I must adjust in order to try to better understand his ways of sensing, knowing and being in the world.

While Joel, Bryce and Tracy's creative play with the notion of routine took very different routes, they show how a thinking in, with, to and through sound via what Voegelin calls, "sonic sensibility" can open the kinds of spaces where creativity and criticality can commingle, each informing each other en route to consciousness. Recall earlier, it was noise that forces the listening subject into the critical ring, and that the transfer between sensibles is about attending to ones moving relationship in/with the world. Thus, the kind of listening required to enter into the critical ring is a dynamic listening beyond the

effort of hearing. Listening, as a sensibility, as a susceptibility toward the world and the things [for] exploring sonic timespace places, as sonic environments, which we inhabit as phenomenological subjects, *listening intersubjectively and reciprocally: generating ourselves and the world we hear through our being in the world*" (pp. 2-3 & 178 fn7 Italics added).

The critical ring connotes circular motion, circuitous currents like sound waves radiating in and out, around and in between air molecules: literal breaths of speech acts and dialogue between sensibles. High school study participants entered the critical ring through their sonic sensibility and creative aesthetic play. The bridge was made through what Voegelin describes as a "discovering drive" and what Ruben Gaztambide-Fernández calls "cultural production,"

explored next. Here, Estrella's composition, *Silence and Sound*, Pierre's *Destruction* and Philippe's, *La route à l'école (The Way to School)* elucidate ways the discovering drive and cultural production manifested, with special attention paid to the role digital audio technologies (DAT) played in facilitating participants' sound pieces.²¹

soundcurrent 4 | "It felt wrong" — (Dis)orienting towards meaning

Listen Link: <https://on.soundcloud.com/KqqoW>

Estrella, an aspiring film and video game composer, had quite a bit of musical language with which to describe his compositional intentions and choices. He speaks quickly, intelligently and often knowingly. He has a hip Hollywood style in the ways he dresses: blazer jacket, cardigan sweater and jeans some days, or a buttoned down shirt with rolled up sleeves and a tie and sneakers, other days. Pierre, Estrella's classmate, self-identifies as a metal head. Donning a black hoodie, black jeans and black t-shirt showcasing his favorite bands like Metallica, he plays guitar and, via YouTube, is learning to play Phrygian and Lydian modes. Both Estrella and Pierre have strong opinions about what constitutes music. More than a few times, their views clash; not in a blaming or negative way. It's great to hear and feel their enthusiasm for music!
(Researcher's Crossfades from the Field)

Listen Link: <https://on.soundcloud.com/KryCi>

I think that there can be some benefits by listening more closely to the sounds in our environment, like I think you can kind of like draw a lot of inspiration if you're a musician and you're trying to compose a piece; you can think about a sound around you in your environment use it as building block, and build off it and see where it goes. When you're a musician you have

²¹ While DAT traditionally refers to Digital Audio Tape in audio engineering and production terms, I draw from Kladder's (2021) use of the acronym DAT to encompass "sampling, editing, mixing and producing original music" (pg. 220).

a certain knack, you tend to see sound differently in general. You perceive music differently. Sometimes being a musician tends to broaden your horizons (Pierre, G1A, ST)

Listen Link: <https://on.soundcloud.com/YY2Dd>

As I'm setting up my recording gear for today's last sound session workshop, Phillippe is noodling with scale passages on the baby grand piano in the music classroom. Jonathan, another participant, rests his elbow on the lid, listening. In the background, behind the closed doors of the instrument storage room, bouncy Alberti-esque bass bassoon scales bob up and down. Mr. V is practicing before school starts, something he says he does daily. Jonathan and Phillippe discuss the differences in sound and feel between Phillippe's piano at home and the classroom baby grand. Phillippe tells us about the old upright "honky tonk" piano he has at home. "It sounds fine for me," he says, "but I like record it and then I like hear it again and I'm like, 'why does it sound like that?' I don't notice that when I play it...It's very old...I think my grandmother got it second hand, but like middle C like the tile on the key is like cracked so like the wood is bear under it, and like the pedal to like do legato and stuff that only works on some of the notes now that's like it's most recent problem. This note (he demonstrates by playing a low A and holds down the pedal) stays down. It's old. The soundboard's broken." We start talking about DAWs and VSTs and the different kinds of virtual pianos that music producers and synth makers sample to get the "twangy" effect. He says he's using "another studio software, similar to Bandlab, Soundation, because they have a lot of instruments you can use...the thing that Bandlab has though is they make it sound nice when you add instruments, whereas Soundation, instruments are there and you have to put the effects on, and with Bandlab you can upload sounds for free."

The bassoon stops. Mr. V comes out of the practice room. “Good morning, Monsieur,” Jonathan says. We all greet him. Phillippe begins to play a waltz, Chopin? He struggles with the timing of the waltz. It’s uneven, beat three not quite making it in time to meet beat one. Mr. V checks in with me to make sure I’m “all good” with my gear set up, grabs a folder from his office and heads back into the instrument storage room. He closes the door behind him. Klatch-thud. Phillippe continues playing the Chopin-esque waltz. Bassoon scales start up again. (A surprise, secret duet!) Phillippe plays a harmonic minor scale passage a few times over, a trill figure, actually a mordent. He stops playing. “It’s so much harder on this piano” he says because the keys are heavier. He keeps working on the passage. “I’m also self-taught. I’m just trying to teach myself theory. And, ah I’m very sloppy. It’s very difficult.” I ask him if he’s using YouTube or a book. He says, “I have like six year old Royal Conservatory books. This one is level six. I really haven’t passed Level 1, but it is what it is. And, this one (he looks at the copyright page) is 1975.” In an old-timey raspy voice, Jonathan slowly squeaks, “Baaack in myyy daaay.” (I chuckle on the inside.) Phillippe talks about the many music books he has at home, “400 hundred” and his “musical family” of aunts, cousins, uncles, mom and dad and the many instruments they play or have played — flute, violin, piano, ukulele, cello, trumpet clarinet, guitar — though his dad “hasn’t played saxophone in years.” He starts playing another piece, stopping and starting passages, then stopping. He said he used to play by ear, but now is learning to read. Everyone in his family started on piano. His grandmother plays violin. He wants to learn guitar and cello.

The five-minute bell rings signaling school is soon to start. Mr. V opens the door [Klatch-thud]. Phillippe plays fast flourishes on the piano. The crescendo of students’ voices mixed in French and English are heard as they trickle into the room, gathering around the piano, around

Phillippe who's piano flourishes and bass lines start to fly in speed, attack and emotion. Pierre exclaims, "Oh, That sound! That sounds like the bass line in Orion!" Another participant says, "Oh, from Metallica?" Estrella says, "Oh, yeah, that's why I know it!" Pierre cuts him off and starts comparing the sounds of Metallica's music with DragonForce, the sound of power metal and super heroes. Phillippe's piano starts playing lower bass notes. Mr. V claps four times. There is silence. Morning anthem (Oh Canada!) and prayer begins. (Researcher's Crossfades from the Field)

Discovering Drive and Cultural Production

In multiple moments and varied ways participants in this study effectively took sounds from their everyday life and reassembled them in ways meaningful to how they understood and related to the world. Voegelin (2014) calls this process a "discovering drive." Like all of the activities in this study, listening played a significant role in how participants' perceived and responded to their worlds. By activating a discovering drive, they could extend their listening practice, exercise and sharpen their sonic sensibility and move into active creative critical engagement. They could therefore "touch and be touched" and, thus, sustain *resonance*. This is because a discovering drive opens a space for a way of "listening [that] allows fantasy to reassemble the [audible] fixtures and fittings, and repositions us as designers of our own environment" (p. 12).

The sonic environment, or sonic lifeworlds, as I have come to call, played a significant role in how participants came to perceive their relationship to the world, including, but not limited to, how they think and create musically. The ways they described their experiences to sounds they encountered, and how their sounds found ways into their creative critical process is what Rúbén Gaztambide-Fernández (2007) calls, "cultural production...the active engagement in

reorganizing the symbolic content our social being...This *in between* process requires the *inner* engagement with direct experience and the production of new *outer* representations” (p. 36, Italics original). In his view, cultural production sits at the nexus of socially just pedagogies — ways of teaching that invite students’ lived experiences into classroom spaces and connect those experiences with some of the systemic issues currently on their minds — as heard in participants’ stories and sound pieces thus far.

Technologies, specifically, Digital Audio Technology (DAT) like mobile devices, cloud-based Digital Audio Workstations (DAWs) and audio streaming and sharing platforms and handheld recording devices played a significant role in facilitating participants’ discovering drive and products of culture they created. DAT has also played an important role in how I gathered, analyzed and shared their stories and sound pieces — as listening links in this study were spliced and processed using Audacity from digital and ambisonic recordings I made during data collection (Zoom H1, H3-VR Ambisonic, Sony UX560, SoundCloud). The use of such technologies in music education has gained much traction in recent years (bell, 2020, 2018; Giddings, 2022; Greher & Burton, 2021; Kaschub & Smith, 2021; Manzo, 2016; Ruthmann & Mantie, 2017; Tobias, 2016). Partly, this is due to such technologies’ ubiquity. However, as “pervasive” (Mash, 2005, p. 1) as they may be, punk rocker turned music teacher, Jonathan Kladder (2021) found in his recent survey of 83 NAFME teachers, that DAT and its’ *concepts* are not as prevalent as might be thought and should be integrated more strategically and consistently into music curricula and classrooms. Such is reflected in Phillippe’s comment above about why he likes Bandlab over Soundation: *they make it sound nice when you add instruments, whereas Soundation, instruments are there and you have to put the effects on*. Putting the effects on requires learning DAT concepts and how to apply them to achieve desired results.

Such concepts correlate to the ways participants spoke about their experiments and choices in the ways they shaped, mixed and produced their sound pieces. Resounding their sonic lifeworlds required them to attend to aspects of sound in which most said they were unfamiliar; concepts, terms and practices generally held for studio music production students, not music students in traditional streams of K12 education (e.g. general, choral, instrumental). Thus, participants practiced listening, thinking and playing sonically so as to manipulate sound material to fit their specific musical desires. In what sound studies philosopher Christoph Cox (2018) calls “sonic thinking,” participants such as Phillippe and Simone started to “ask, ‘what is this sound?’ and ‘what are its conditions of existence’”(p. 137)?

Effecting sonic lifeworlds via Digital Audio Technologies (DAT)

In his autoethnographic study, *Mixing as a Performance: Creative Approaches to the Popular Music Mix Process*, Brendan Anthony (2018) says,

Mixing is more than the sonic refinement of audio signals — it also involves a creative process (mixing as a performance) that satisfies the mixer’s musical and emotional connection to the song...the sonic manipulation of the mix is a reaction to the artist’s influences, and these social, cultural, or musical stimuli may all stir emotions. (pp. 104 & 108, Italics original).

Complementing Brendan’s argument, trumpet player Chris McRae (2009) who charted his new instrument learning process across all four strings of the bass guitar notes, “the relationship between our bodies, technology, and identities are always connected with multiple layers of meanings, and we carry these meanings with us always as part of our bodies” (p. 149).

In *Silence and Sound*, Estrella’s passion for cinematic scores inspired him to use panning, fading and dynamics to create a sense of space, place, time and an “unsettling, edgy, off-putting

feeling of disorientation.” The VST music box, empty airy space sound, shower from his bathroom, water droplets from the kitchen faucet and the humidifier from his bedroom were layered in with effects to produce hauntingly, still, reflective moments — moments, that at times maybe “felt wrong” — but, was exactly “what [he] was trying to do” thus making the play between Silence and Sound intentional, meaningful and deeply personal.

Pierre’s piece, *Destruction*, set out to “prove a point that you can kinda’ keep tempo with everyday objects, pretty much.” In an earlier session, Pierre critiqued Estrella’s piece suggesting that “if there’s no drums it can’t really be music, cause music’s gotta have drums.”²² Using a door slamming for a snare drum, piano pedal for a kick bass drum and a metal spoon hitting a bowl for cymbals and bells, Pierre composed a rhythmically driving rhythm track. His passion for heavy metal music, his “main writing style,” inspired him to “throw down” originally improvised electric bass and guitar riffs that he could “just have fun with.” This was Pierre’s first time recording and sharing a piece of music he created, and while he felt the “tone of it isn’t the greatest” he said he wanted to continue playing around with effects in the future to get sounding better. His audible ‘shrug’ at the end of the clip heard above, speaks volumes to the ways in which I noticed him carrying his body during the study; particularly when sharing or debating his ideas and opinions about musical styles, genres and bands. In such conversations, he would fling his long blond hair tilting his head to the left, stretching his neck a little bit above his shoulders and standing confidently, mostly open to listening to a differing view, however, seemingly always aware that he must be ready to defend, to be heard.

²² A similar notion was expressed by one of Bylica’s (2020b) middle school students who said, “Music’s gotta have a beat!” (p. 228), thus delineating some of the challenges students face when composing using sounds. This is where DAT also serves to facilitate students’ creative intentions.

Estrella and Pierre spoke with their bodies, clothing and gestures; embodying elements of the music they hold dear. Their ways of being in sound and music elucidate Brendan and McRae's statements. That their musical preferences found their way into the sound pieces also highlight Tobias' (2016) observation that "Students' chosen genres of music factor into their engagement with the technology as they create music in idiosyncratic ways" (pp. 125-126). The seventh graders featured in his *Vignette 3 What Makes ___(A Type of Music) sound like ___(That type of music)*, is similar in tone to high school participants in this study.

Phillippe's final ten-page French/English bilingual journal describes the "journey" he had composing his sound piece, "La route à l'école (The Way to School)." He likened his composition to "painting a personality," and after collecting and categorizing sounds to fit his "characters," he experimented refining their traits and tracing their movement via a variety of audio effects. Phillippe's piece brings us once again into the virtual world as his characters Groot, from *Marvel Guardian of the Galaxy* and Bowser from *Super Mario Bros.* join him on a "mischief" trek to school. Phillippe's journal traces his creative and technical steps en route to bringing to life characters, spaces, places and travels through "hyperspace" time (See Fig. 2.5)

In my project I discovered many things. A big portion of what I learned was in effect. Some of the effect that I learned how to use were:

- Studio reverb
- Spring reverb
- Echo
- Tremolo
- Equalizers
- BL driver
- Compressor

I also learned the importance of balance in a project. A good example of this would be the bass line. It was challenging to find the right volume for it since it showed up extremely differently on different speakers. Same thing with the sounds. Since they were the main focus of the project they had to stand out, but they also couldn't drown out everything else. I found that a good way to deal with that was to have them actually integrated within the theme and within the musical part instead of two separate things. I also learned the use of panning and volume, it became something very useful for adding movement to the piece. Altogether though I learned that the sound doesn't need to be perfect to be perfect because perfection is never the ultimate goal.

I listen to my environment differently, I hear sounds differently, I make music differently. Basically, a lot changed.

Figure 2.5 | Phillippe's SNJ (Edited Version)

In the final reflections presented, participants offer insights into ways their sonic lifeworlds stimulated a sense of "wide-awakeness" as aspects of consciousness are entertained.

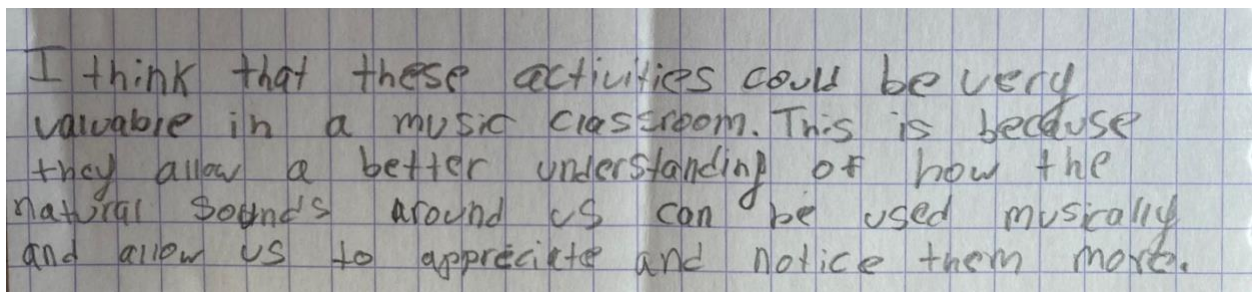
Toward a music education that resonates: Final sounding board of reflections

Listening Link: <https://on.soundcloud.com/VueLR>

Session 1: In the first week, I didn't notice much of a difference between my hearing. Did not collect sounds | Session 2: I still haven't realized much of a difference or being able to hear different sounds. I did notice more birds and the sounds of my shoes when I walked. Collected 2 sounds. | Session 3: I started to hear things more clearly and was able to pick apart sounds when listening to music. I noticed a new person moving in (heard boxes, people talking, cars). I seen a group of kids at school but didn't care enough to see what was going on (that sounds bad but I swear its not) - (heard yelling and oooooh's). Took my dog to the park (I noticed when every dog came in they barked because they were excited) Collected 1 sound. | Session 4: I started to notice

that I could hear sounds more clearly. I noticed my dogs bark was lower than what I was hearing before. Collected 3 sounds. | Session 5: I started to hear things a lot more clearly than the previous weeks. Collected 1 sound. | Session 6: Nothing stood out to me this week. My friend fell while trying to jerk, it was funny (this is what made me add the hi-hat that I did because it reminded me that). | Session 7: I didn't have a good week so I didn't notice anything. Collected 4 sounds. | Session 8: I'm having a GREAT week, very happy. Kind of upset because this was our last session :(I was nervous presenting my piece but I enjoyed it. I enjoyed listening to the remaining peoples pieces (Bella, G1A, SNJ).

Listening Link: <https://on.soundcloud.com/hrkNz>



(Arjun, G1A, SNJ)

Listening Link: <https://on.soundcloud.com/pgTba>

I learned many things about music/sound. I realized just how much sound is around me at all times. I was able to use my creativity to take my everyday world and turn it into a new world with new sounds. I also realized that I hear music every single day, more than once in just the first hour after I wake up (Stéphanie, G1A, SNJ)

(Re)playing awake in unsound times

When discussing the purpose of writing music, composer John Cage (1973) spoke to a notion of “a purposeful purposelessness or a purposeless play...Play [as] an affirmation of life...a way of waking up to the very life we're living” (p. 12). I am reminded of American poet,

essayist, and naturalist Diane Ackerman's (1999) reflection that "Every element of the human saga requires play. We evolved through play. Our culture thrives on play" (p. 4-5). For Ackerman, "deep play" denotes "peril and plight" (Ibid. pp. 7-8). The perceived danger of play is in its push to "disrupt the certainty of the present" (Christensen, 2018, p. 27-28) and unsettle one's ordinary conception of things as it necessarily maneuvers through multiple iterations of interpretations and (re)knowings. In composing original sound pieces inspired by their sonic lifeworlds, participants enacted Latta's (2012) aesthetic play and 'deliberately' engaging, listening, reflecting and responding to their worlds. They were (re)awakened to issues sounding wrong and worked *and* played to draw attention to and 'disrupt' tones of hate, derision and divisiveness.

Arjun's original sound piece, "Yellow Peril Hostile," for example, resonates with the rise of anti-Asian hate crimes that saw a marked increase during the pandemic (Grover, Harper & Langton, 2020; Lantz & Wenger, 2023). Arjun did not directly address why he chose his title, nor did he make a direct verbal reference to xenophobia's recent rise. A demographic snapshot of the school and its surrounding area suggests Arjun is a member of a diverse community in/out of school, including a number of Southeast Asian students and families. Listening to his piece and listening him describe his creative process, I am left wondering why he chose not to disclose his reasoning and choice of the title. However, a close listening to the sounds he chose, the voices he amplified and the serenity he orchestrated amidst intense chaotic interruptions, brings my mind's ear to a world he may know a thing or two about; perhaps too close to home to feel comfortable sharing out loud. During our weeks together, I observed Arjun's shy, quiet, his sometimes purposely seemingly distractedness away from uncomfortable topics. He was not one to add his voice in the mix between Anil and Cy about gun violence and video games. Sometimes its best

not to push and to let the creative critical process be a personal one, as really it always is, unless/until one chooses to break their silence and share.

Participants were also (re)awakened to the joys, laughter, kindness, fun and love of being alive and in/with the world and the things. And, even in the ups and downs and days ‘off’ hearing their world, as Bella expresses above in her journal entry, articulation of such is in and of itself a healthy awareness — an orientation of knowing and getting to know one’s Self in relation to the world and the things. Bella, like Arjun was shy, reserved and sometimes nervous sharing her work and ideas. I noticed how often other participants interrupted her while she was taking her time to articulate a thought. At times, I interrupted them bringing the moment back to Bella so we could listen to what she had to say. Other times, I waited until the interrupter had finished, and then redirected the conversation beckoning Bella back into the mix. Was she familiar with such interruptions? What might such interruptions mean to a person’s sense of confidence, of voice being heard? How often have I spoken over others, interrupting their flow, their current, their voice?

An attention to sonic lifeworlds in music education spaces carries the potential to bring a constellation of pedagogical benefits including waking up to the very life we’re living. Such waking up is not meant to be confused with current notions of being “woke” which is rapidly dividing educational institutions and social-political bodies.²³ The kinds of (re)awakenings I am speaking about, and as heard by study participants, are those that actively reengage senses and embodied ways of knowing and being in the world via sonic encounters en route to creative critical consciousness. Curricular attention to sonic lifeworlds can catalyze the kinds of

²³ Aja Romano’s 2020 Vox article *A history of “wokeness”* alerts us to the tensions and deleterious effects the term has in its’ now coopted version. <https://www.vox.com/culture/21437879/stay-woke-wokeness-history-origin-evolution-controversy>.

awakeness Stéphanie speaks of above when she says, "I was able to use my creativity to take my everyday world and turn it into a new world with new sounds" (G1A, SNJ). Her words resonate with Rosa's (2020) in that

The universe of sound consists in its ability to express or generate all manner of different and differently nuanced relationships: strife, loneliness, desolation, resentment, alienation, and tension, as well as yearning, refuge, security, love, responsiveness. (p. 94)

In the ways offered by participants in this study, there is no question that a thinking in/with/through sound opens a space to catalyze creative consciousness. Beyond the notes themselves music lives fundamentally within the domain of sonic phenomena. And, while musical notes and the constructs and theories governing them have a place in music curricula, a pivot and reorientation away from "ordinary conceptions of music" (Cox, 2017, p. 100) towards sonic lifeworlds point a way forward in fostering educative spaces that value student voice, creativity, criticality and wide awakeness.

Final reflection and future orientation

The stories you have heard are true. Only the names have been changed to protect the innocent. So goes the opening theme to the old time radio show, *Dragnet* — a favorite of my father's that he often played on our old family boom box in the kitchen while he was cooking. The radio, as I think back played a significant role in my early life. It provided entertainment, world and local news at the top of each hour and it also helped drown out the sounds of South Central Los Angeles — our part of the city that always sounded on fire. Indeed, as radio and sound studies scholar Seán Street (2017) suggests, "Sonic signals from radio and other audio sources trigger recognition and develop the identification of self in relation to the world around us" (p. 37). Similar to radios, sonic lifeworlds position us as transmitters and receivers: tuning in

and tuning out, and sometimes fine tuning seeking clearer signals for less distorted reception and transmission to the world and the things; such as truth and innocence.

Truth and innocence, however, are elusive and can be a bit misleading, even hazardous. It is interesting to me Estrella said “I like seeking truth...I really like staying like stuck in fundamentally grounded in truth, and also I like knowledge for the sake of knowledge” (Estrella, G1A, ST). I felt like I had heard such things before ringing through the corridors of music halls and classrooms, settling upon the pages of theory texts and declaiming across the stages of symphony halls. Estrella’s statement came during our Sound Table (ST) session where we were in final conversations about why, or why not, sound, silence, noise and music might matter? And, why during music instruction and leaning time at that? Was this study seeking truth? And, who are ‘truly’ innocent? No. And, no one.

As study participants elucidated, and as Stéphanie articulated, it takes “conscious talk” to entertain phenomena such as truth, innocence, gun violence, xenophobia, war, anxiety, mental illness, depression, identity and other ‘things’ this group of young people were confronting. Conscious talk is precisely the kind of sonic speech act that is necessary to “take account of issues of oppression” (Wright, 2016/2010, p. 276). Conscious talk is the kind of talk that contributes to a “climate of openness and intellectual rigor” (hooks, 1994, p. 40). In such a climate, the late American educational philosopher, social activist and teacher, Maxine Greene (1995) says,

teachers and learners find themselves in a kind of collaborative search, each from her or his lived situation. The search might begin with a deliberate attempt to break through “the cotton wool” of nondescript daily life...*marked by repetitions and banality*...Young people might describe their daily round in terms of stuffy crowded bedrooms, jangling

noises in the halls, lines in public agencies or clinics, overcrowded swimming pools, and libraries closed before dark. Or an unquestioned day might be perceived in the light of the shopping mall culture: fast-food counters, clothing stores, fake plants, skating rinks, video games, and MTV. (p. 23 Italics added)

Plays between dark and light, similar to sound and silence, suggest it is to the spaces in-between we may turn an ear, or two; listening with and against the echoes, hums and currents encountered, and listening out, not for truth, or innocence, or even music in ways ordinarily conceived; but for shades of grey and spectral density (i.e. white noise) whose signal powers possibility. In other words, as participants illuminated: turning their attention to sounds occurring in their everyday routines gave way to questions, ideas and curiosities they had not yet considered connected to their musical and otherwise ways of knowing and being.

For music educators striving towards relevant and socially just practices, tuning in to the sonic lifeworlds of students can facilitate such practices. As Rosa (2020) reminds us, “it is in school that we begin to grapple with the ‘stuff of the world’ by reflecting on it, actively distancing ourselves from it, and adaptively transforming it” (p. 238). Tuning in their *sonic lifeworlds* — *everyday sound currents streaming in/out/through/across spaces and places traveled and trekked such as schools, homes, neighborhoods, parks, playgrounds, streets, alleyways, train stations, or cyberspaces* — study participants dialed in frequencies on their personal radios and heard across the airwaves: distortions, amplifications, compressions, limiters, attacks, decays, phases, tremolos, looping, masking, modulations and other signal effects informing their relationship to the world and the things. By mixing, remixing and processing information received, they grappled with the stuff of the world and reoriented their relationship to the world and the things such they could respond creatively, critically and consciously.

Article 3 | Exploring the sonic lifeworlds of university music majors

Abstract. This article recounts six undergraduate university music majors' perceptions, reactions, responses and insights related to their experiences listening, collecting, critiquing and creating with sounds from their everyday life. Using sound arts-based research (SABR) methods (Gershon, 2018), sensuous scholarship (Pink, 2009) and post-intentional phenomenology (Vagle, 2018), this qualitative research study highlights some of the affordances and challenges a “sound education” (Recharte, 2019) can offer in university music and music teacher education programs. Participants in this study spoke to some of the tensions they faced navigating and negotiating between their accustomed and trained ways of thinking about and being musical and alternative avenues of musical engagement, specifically “sonic thinking” (Cox, 2019) and “sonic sensibility” (Voegelin, 2014). Within such tensions new understandings around creativity, musical identity and music making and performing were discovered. Participants also shared how their relationship to the places and spaces they regularly traversed shifted as a result of consciously attending to sounds they encountered. In these new relationships participants sometimes became unsettled as they came face to face with personal, social, economic and political dissonances reverberating across the “sonic commons” (Odland & Auinger, 2009). In this unsettling, participants' critical consciousness was catalyzed. This article articulates and delineates specially designed sound methods used in this study that may serve as a working model for educators wishing to invite creative critical inquiry into their teaching and learning spaces. In line with SABR methods and to ensure participant voices are heard, some of the vignettes shared in this article feature audibly accessible links so that readers may listen to participants share their *sonic lifeworld* encounters and experiences.

Keywords: sound, creativity, critical pedagogy, music identity, embodied ways of knowing, music teacher training

Introduction

Recently, scholars in the field of music education have conceptualized pedagogical and curricular benefits sound may offer in music teaching and learning spaces (Abramo, 2014; Hill, 2018; Recharte, 2019; Thibeault, 2017). Citing sound's potential to widen music students' conceptions of music, musical identity and musical creation and performance by facilitating creative and critical engagement with their sound worlds, calls for a sound pedagogy, a sound approach and a music education that resonates have been entertained. This study engages with and extends these conversations by drawing upon the fields of archaeoacoustics, sound studies and sensuous scholarship. The overarching conceptual framing guiding this study comes from German social theorist, philosopher and educator, Hartmut Rosa's (2020) notion: *resonanz*.

In this article, I suggest that university music undergraduates *sonic lifeworlds* are significant entryways for (re)orienting and (re)calibrating their relationship, not just to music and music making, but also to other relevant aspects of their lived experiences (e.g. university, work, family, personal). This is because sonic lifeworlds encompass everyday sound currents streaming in/out/through/across spaces and places traveled and trekked. Schools, homes, neighborhoods, parks, playgrounds, streets, alleyways, train stations, cyberspaces and more are filled with sonic information signaling, silencing, amplifying and influencing how one feels, thinks and acts. The concepts, methodologies and methods guiding this study are centered in relevant, responsive, sustaining, critical and socially just pedagogies (Benedict et. al, 2015; Freire, 2005/1970, Greene, 1995; Giroux, 2015).

At the same time, this study sought to open and facilitate a creative space for undergraduates pursuing music and teaching careers to consider what it might mean to think, create, and perform in/with sound through group improvisation and collaborative composition. When asked why they were attracted to participating in the study, statements such as the following emerged:

I was interested in exploring the concept of sounds and just how it can be used to make music (Curtis, G2A, FG)

I wanted to further my own learning because I think that makes me more aware of who I am as a teacher and who I want to be (Sarah, G2A, FG)

I'd been looking for opportunities to think about different ways to approach music with young children, as opposed to ta-ti-ti-ta and this is a B on the staff. They are much more capable of comprehending music in different ways...like how to interact with sounds in the classroom and put musical spins on that, or how to talk about more complex subjects...like why we exist or why music exists or race or religion... and stuff like that (Deana, G2A, FG) [<https://on.soundcloud.com/7ZXC4>]

Study participants were/are actively pursuing music and music teaching careers across general, instrumental, choral and studio. Their interest in musical experimentation and sound exploration speaks to a gap in tertiary level music education spaces. Their interest and commitment to providing reflective and critical spaces for their future music students also speaks to the current changing socio-political landscape wherein all institutions must rethink their purpose, viability, accessibility and curricular design.

Using a Cageian lens to situate musical ways of listening, knowing and being, Hill (2018) suggests music educators reimagine their roles as “teachers of sound or sound teachers” (p. 46)

and invite their students' "sonic curiosity" (p. 51). For Hill, preservice music teachers are ill-equipped to become sound teachers given their undergraduate music experience tends to focus on getting the "'right' sounds" (p. 54). To address this gap, he suggests "offering opportunities for rich, divergent sound exploration and play...allowing for...flexibility of sound...a broader range of sound sources, textures, timbres, and so forth" (Ibid.). This study's aim and methods were designed to do just that. Of equal significance are the reflections, recommendations and critiques kindly provided by study participants as these can help in understanding when/where sound and music intersect, complement, extend or disrupt ways of knowing and being musical.

With this aim in mind, methods were designed to offer participants multiple overlapping and multisensory ways to reengage, recontextualize and express everyday sounds they encountered through critical reflection and group improvisation and collaborative composition. Thus, everyday sounds became material for musical exploration and creative production, as well as phenomena to be considered, critiqued and (re)connected to participants' lived and sometimes shared experiences.

In these ways, this study set out to examine how participants interacted with sound-based activities in the hopes that they, as musicians and music teachers in training, might feel free to experiment, explore, critique and continue thinking through some of the personal, musical and pedagogical potential of sound in their musical growth and future music teaching. The six music composition and music education study participants elucidate ways sound can act as a catalyst for creative critical consciousness. These participants, to my knowledge, are the first to engage in an empirical study analyzing potential benefits sound-based curricular activities in music education may afford. Their voices are significant in helping music educators better understand how and in what ways a sound approach to music might be realized in practice.

Following a description of the conceptual and methodological framings that guided the study, I will introduce and describe each method. Some methods were used to collect demographic data. Others were curricular in aim: specifically, activities that might be considered for inclusion in undergraduate music students' experiences. Those methods will feature examples via audio listening links for readers to listen in on participants' experiences and reflections. Next, I will introduce each of the six participants, sharing their background and highlighting unique ways they showed up in/for the study. Then, I will delineate themes and findings, through what is called in this study, *soundcurrents: sounds streaming through spaces, places and contexts, shapeshifting in and out of sync en route to connections and meanings made*. Listening links are available throughout so readers may listen to participants' improvisations and compositions, and in some cases their direct reflections and statements. And, finally I will discuss implications and possibilities for future study.

Sound as a way sensing, knowing and being in the world

Sound, as a way sensing, knowing and being in the world has been addressed conceptually and empirically across the fields of *archaeoacoustics* (Eneix, 2014; Kolar, 2018; Reznikoff, 2008; Scarre & Lawson, 2006; Zubrow & Blake, 2006), *sound studies* (Augoyard & Torgue, 2005/1995; Bull, 2019; Eidsheim, 2015; James, 2019; LaBelle, 2010; Sterne, 2012) and *sensuous scholarship* (Howes, 2003; LeBreton, 2017/2006). The field of archaeoacoustics, also known as acoustic archaeology speaks to the ways sound—sonic material encountered, experienced and entertained in everyday spaces—has been used to shape social, political and musical cultures from Paleolithic times until now.

Using digital modeling and acoustic measurement techniques, archaeoacousticians have alerted us, not only to the possible variety of sounds early humans encountered, experienced and

experimented with, but also the extent to which sound was significant in creating connections and sustaining relation with each other and the environments they traveled. As Hendy (2013) notes, “through noise we evolved. In a continuous feed-forward loop, new sounds, tonal effects, notes and rhythms were discovered...tried out...echoed back...copied, altered, replayed thousands of times, over and over again” (p. 9). Thus, sound has always occupied human curiosity, imagination and creativity, and has played a significant role in shaping our ways of relating to/with the world and the things.

Sound studies scholar and curriculum theorist, Walter Gershon (2018) notes, “sounds are systems of educational ways of beingknowingdoing” (pp. 26-27) and are linked to struggles around knowledge, value, control, and power, and thus consequential in learning and teaching spaces (Akiyama, 2010; Black & Bohlman, 2017; Gershon & Appelbaum, 2020; Kheshti, 2015; Wargo, 2018; Wozolek, 2023, 2018). Echoing Gershon’s sentiment, Iranian born anthropologist, feminist, queer and critical race theorist, Roshanak Kheshti (2015) situates sound as a “social formation...constituted by struggle and struggled over...[and] Sound’s form [as] a hermeneutical tool; a wavy and reverberant materiality, [that] reflects, is productive of, and also engenders through resonance” (pp. xx & 111). Such is a resonance Abramo (2014) may mean when he asks,

What would it mean for educators to privilege sound? What would a musical education that resonates with rather than shows require of students and teachers? Are there qualities of sound and the experience of listening that educators can extrapolate to inform the philosophy and practice of music education? (p. 79)

Some answers to these questions, while complex, are practically doable as participants in this study articulated and demonstrated. (Read Sarah’s reflection below). However, what is

required, particularly in music education settings, is a pivot and reorientation as it relates to our relationship to/with/in music. That is: how we have come to conceive music fundamentals and ways of being musical must be addressed when considering a music education that resonates.

Sonic Thinking

Reorienting our relationship to music, as study participants discovered, is challenging because it calls into question what sound art philosopher, Cristoph Cox calls our “ordinary conception” of music. Cox’s (2018) asserts,

Our ordinary relationship to music is one of unthinking familiarity — the apprehension and production of perceptual and affective cliches, ready-made forms, conventions, and cultural associations that prevent us from hearing anything else. In short, for the most part, music operates for us according to the model of recognition and does not provoke us to think or ask ‘what is this sound?’ and ‘what are its conditions of existence?’ (p. 137)

Cox (2017) offers *sonic thinking* as an other way to conceive and (re)calibrate ‘music.’ For Cox, sonic thinking “begins, not from *music* as a set of cultural objects but from the deeper experience of *sound* as flux, event, and effect...[and] present us with an *ontology* that unsettles our ordinary conception of things” (pp. 99 & 100 Italics original). Sonic thinking is a start for moving towards a music education that resonates as this mode of thinking may help in pivoting, reorienting and reassessing normative musical traditions and curricula that sometimes discounts, polices and attempts to erase Others’ musical and sonic experiences (Gallagher, 2011; González-Ben, 2022). Or, as Recharte (2019) in his call to “de-Center Music” says, “the premium that is put on *Music*—over any other kind of ‘sounding’—actually does a disservice to students and to teachers” (p. 70 Italics original). Most music educators would never consider their aim in sharing

a love of/for music as a lifelong career commitment as anything other than a service. However, Recharte contends,

When we invoke the concept of *Music* we do so through a system of knowledge, an episteme, which is from its inception Eurocentric, racist, heteronormative, and patriarchal. Any practitioner who intends to address oppressive structures must confront this heritage. (p. 73 Italics original)

As there really is no arguing around this, it is imperative to consider in what ways music and sound might commingle within/against inherited traditions. This is one area this study set out to discover. The general initial discovery is that each may be ‘put to work’ in complementary fashion as sound can facilitate ways of being musical that are less rigid or “rule-bound” as participants expressed. However, having some structural ‘know-how’ or experience organizing a music (e.g. common period, raga, maqam) can make creating with sounds feel less as a ‘free for all’ and offer creative constraints some music students may be more comfortable with; as one participant expressed,

To me it felt more flexible and less flexible. So, more flexible in the way that there wasn't a set of rules that I necessarily had to follow when putting together the sounds whereas for notes you would put them together scales or in chords something like that. But also less flexible in that I had less freedom of musicality...I couldn't really make like you know a melody...or something like that (P2, G2B, FG/Q2)

Participants were vocal in their views about how sonic thinking turned their musical minds towards new avenues of performing, composing and improvising; particularly in how their “fingers” “embouchure” and “body” maneuvered around and away from their normative instrument response systems when mimicking sounds. They were also not silent when it came to

critiquing their experiences in music theory, aural skills, composition courses and music history survey courses. Tensions were present. One participant, Curtis, apologized for “going on a rant” during our final interview when discussing what he described as classical music and music theory’s “strict” hold on his musical thinking, wherein he felt their improvising and composing had become nothing more than a “carbon copy...pale imitations of what came around before me” (G2A, post-SSW, Q4) [Listen Link: <https://on.soundcloud.com/p3Qja>]. Gorlami, a composition major and cinema minor had similar sentiments. These tensions and the ways in which they were released and sometimes resolved via sonic thinking are discussed below in soundcurrent 4.

Sonic Sensibility

In addition to sonic thinking, this study and its methods were guided by what sound artist, activist and philosopher Salomé Voegelin calls *sonic sensibility*. For Voegelin (2014) this constitutes a dynamic listening beyond the

effort of hearing. *Listening, as a sensibility, as a susceptibility toward the world and the things...is not only a physiological act but an aesthetic and perceptual attitude that influences how we understand the world, its reality, knowledge, and truth... [and] reinvigorates ideas about reality, actuality, possibility, and truth...exploring...sonic timespace places, as sonic environments, which we inhabit as phenomenological subjects, listening intersubjectively and reciprocally: generating ourselves and the world we hear through our being in the world”* (pp. 2-3 & 178 fn7 Italics added).

In as much as sound is a way of sensing, knowing and being in the world, the ways one engages listening is equally significant as it informs and signals capacities of/for response.

Listening has been described in various ways within music education literature as it is without doubt a cornerstone of musical enjoyment and acumen (Bamberger, 1991, 2013; Clarke,

2005; Dunn, 2006, 1997; Kerchner, 2014; Reimer, 1989; Rinsema, 2017; Serafine, 1988; Schmidt, 2012). Critiquing structuralist views on listening research and practice in music education, Rinsema (2017) posits listening as an “interpretive process” (p. 6; See also Rinsema, 2019). Drawing from her theoretical and empirical work documenting the music listening experiences of college students, Rinsema substantiates her argument that listening is a creative activity, a “hermeneutic exploration...[that] encourages students to examine the sounds, the lyrical contents, and their contexts (geographical, historical, visual, intertextual, cultural, and so on)...in order to construct possible meanings...[thus] emphasize[ing] the multisensory, multimodal aspects of music” (p.6). In this way, Rinsema highlights Voegelin’s intersubjective and generative aspects of listening.

Voegelin’s notion of *listening as a sensibility, as a susceptibility to the world and the things* connotes an openness or vulnerability — something study participants said they experienced as they began to tune in and listen out for things sounding in the public spaces they traversed. Composers, sound artists and sonic thinkers, Bruce Odland and Sam Auinger (2009) refer to such spaces as, “Sonic Commons... any space where many people share an acoustic environment and can hear the results of each others activities, both intentional and unintentional...The sonic commons is full of asymmetry” (pp. 64-65).

In some cases, the asymmetrical sonics at play rattled study participants’ sense of safety and comfort, not physically per se, but intellectually, emotionally and spiritually. Participants spoke to the sounds of persons living on the street in the downtown area where our trilocale Sound Walk (SW) culminated. Their experiences and reflections are discussed in soundcurrent 2. What their experiences said to me is that when/if we are asking students to tune in and “hear the nearly and audible sounds of our culture” (Schick, 2017), then a curricular space must be made

available to entertain conversations about sonic disturbances encountered. Such conversations need not always be long nor seized in/by an activist stance. Listening as a sensibility, as a susceptibility suggests a dynamic and dialogical acoustic space, not an echo or conditioning chamber. Such conversations can also occur during creative recontextualization and remixing of sounds found out-of-sync, as it did for participants in this study.

Remixing Sonic Lifeworlds: Discovering Drive, Cultural Production and Aesthetic Play

Extending sonic sensibility, Voegelin's (2010) *discovering drive* offers a way to take sonic material gathered from sonic lifeworlds into new realms of meaning as it "allows fantasy to reassemble the [audible] fixtures and fittings, and repositions us as designers of our environment (p. 12). Becoming a designer of one's environment is a significant factor when considering pedagogical benefits sound-based activities may offer as they highlight agentic aspects possible. This is particularly so in the case of study participants who grappled with tensions around musical identity and musical acumen. When asked to share one surprise had during the study, Gorlami said,

One thing I found interesting was just my ability in our collaborative jam sessions, my ability to feel like I was actually contributing to the jam session because I don't have a performance background, so I often feel like I don't know how to perform. Yeah it allowed me to kind of explore performance without having to go through the traditional performance route and playing pieces by a composer from 100 years ago (G2A, FG)

At the heart of Gorlami and other study participants' feelings around improvising, composing and performing is what Ruben Gaztambide-Fernández calls *cultural production*. Cultural production is paramount for sustaining the kinds of educative spaces whereby students' creative and critical voices can be heard. Gaztambide-Fernández (2011) asserts,

By putting students own musical creations at the center of the process this production approach rejects the premise that music education should be about reproducing the work written by other (usually dead, white, and male) composers whose work is deemed legitimate music. (p. 35)

Cultural production opens a space for students to explore creating music on their own terms — literally with their own sounds, from their own lifeworlds. In such agency, they may also address some of the sonic disturbances encountered and experienced. This is because

It is cultural production—the active engagement in reorganizing the symbolic content of our social being—that oppressive boundaries can be challenged in the search for social justice. This in between process requires the *inner* engagement with direct experience and the production of new *outer* representations. (Gaztambide-Fernández, 2007, p. 36 italics original)

Deweyian educator/scholar Margaret Latta (2013) cites active creative critical engagement as *aesthetic play*. For Latta, “Aesthetic play opens into and cultivates the practice ground to deliberately engage the world” (p. xiv.). Deliberate engagement with the world and the things was/is the point of the methods designed and carried out during this study. Participants regularly and deliberately went out into the world, listened and brought back sounds they found *comforting, funny, unsettling, mundane, annoying, meditative, frightening and amazing, mysterious, joyful, tense, peaceful, stressful, repetitive, whimsical, energetic, familiar and Divine* among others. Then, using aspects of music with which they were familiar such as timbre, pitch, pulse, rhythmic figuration, etc., they reassembled and remixed their sonic lifeworlds.

Resonanz and Creative Critical Consciousness

Sonic thinking, sonic sensibility, discovering drive, cultural production and aesthetic play offered a foundation on which to conceptualize and design methods for this study and to think and work through what a music education that resonates might sound and look like in PK-16 settings. Fastening these concepts together is German social theorist, philosopher and educator Hartmut Rosa's concept: *resonanz*. Rosa (2020) situates schools (and universities) as resonant spaces wherein we begin to "grapple with the 'stuff of the world' by reflecting on it, actively distancing ourselves from it, and adaptively transforming it" (p. 238). As this study's aims and research questions were/are centered around transformative qualities of sensing, knowing and being in the world, Rosa's notion of resonanz is instructive, particularly for music educators interested in pursuing sound-based curricular activities.

Calls for a sound pedagogy, a sound approach and de-Centering Music stem from a desire to create and sustain open, inclusive, equitable and creative critical spaces for music students to hear, listen and feel connected to their worlds, musical and otherwise, through their school and university music education experiences. In essence, as Rosa (2020) would say, a music education that resonates is one that engenders "the ability to both touch and be touched" (p. 11). Such touch manifests in the ways students (and teachers) relate, or not, to the things they are experiencing in the music classroom. In other words, recent calls for a *sound education* imply that a *music education* is in some ways lacking resonance — at least in the ways music education is traditionally understood and carried via its' curricular foci on canonical works, playing 'the right' note, 'winning' auditions, 'perfecting' performance and so forth. For Rosa,

Education in the sense of resonance theory...is aimed not at cultivating either the world or the self, but rather at *cultivating relationships to the world*. The goal is not refinement

of the individualistic or atomistic self nor disengaged mastery of the world, but rather opening up and establishing axes of resonance. (p. 241 Italics original)

Axes of resonance in this sense involve a matrix of relations and responses between teacher, student and curricular material. When these are ‘speaking’ to/with each other, that is “when the classroom ‘crackles’ ...[and] axes of resonance begin to vibrate” (p. 243). Unfortunately, when the crackling stops (if indeed it had ever sounded), then schools, universities and curricula become, in Rosa’s converse to *resonanz*, “a zone of alienation” wherein one feels voiceless, unheard, untouched, mute and ultimately may (or may not) go through the motions of ‘learning’ hurtling through the next set of hoops en route to some kind of a ‘success.’ Such a scenario is unfortunately not uncommon. It is sadly, yet precisely the kind of alienation found in by rote and ‘unconscious’ ways of being in the world.

Resonanz is a creative critical pedagogical act centered in consciousness. Creative critical consciousness is a recognition that the “essence of consciousness is being with the world” (Freire, 2005/1970, p. 169) and carries with it and understanding that *to be* is a generative and dynamic process of becoming and a coming into relation with self and other through dialogue, reflection and action — three important features driving this study’s concept, design and implementation.

Thus, this study set out to 1) realize aspects of a sound pedagogy built around the above concepts, 2) invite participation from those for whom a sound pedagogy has been speculated, and 3) gather and assemble participants’ voices to better understand the implications, challenges, affordances and avenues sound-based curricular activities offers. In these ways, this study set out to examine how participants interacted with a sound-based pedagogy so that they as musicians and future music teachers might consider augmenting their teaching and learning practice; thus

realizing some of the creative and critical aims many music educators today desire and are actively working towards. This study is not a pedagogical model in the plug-and-play sense, but an active, alter / native and fluid curricular experiment offering live and continuous feedback that could be useful when thinking about what it means to deliver a music education that is at once creative and critical via *sonic lifeworlds*.

To these aims, research questions guiding this study were:

1. How do participants describe and discuss their relationship to sounds they encounter?
2. In what ways, if any, do their discussions connect to wider personal-social-political issues?
3. How do participants describe their creative engagement and processes using sounds to improvise and compose?
 - (a) In what ways, if any, does such engagement and processes influence their perceptions about music, sound and personal creativity?

The following methodologies supported these questions, aims and concepts and guided the design of the methods.

Methodology

Methodologies guiding this study were overlapping and interconnected as they aimed to explore aspects of perception and consciousness. Methodologies offering the kinds of tools and thinking space needed to consider polyphonic ways of sensing, knowing and being were found in three that attend to affective, embodied, experiential and sensory aspects of perception and consciousness: *sound arts based research* or SABR (Gershon, 2020, 2018), *sensuous ethnography* (Pink, 2009) and phenomenology—specifically *post-intentional phenomenological research methodology* (Vagle's (2018).

SABR starts from the premise that sounds inform and influence ways we come to sense, know and be in the world. Sounds are educational as well as methodological offering teachers and researchers an ear into the lived experiences of their students and participants. Sensuous ethnography attends to: *perception, place, knowing, memory* and *imagination*—key aspects complementing the conceptual framing of the study and informing its’ methods design. While Vagle’s post-intentional phenomenology methods provide ways to think across patterns, parallels and paradoxes.

Methods

Music Background Questionnaire (MBQ)

In order to better gauge undergraduate music majors’ feelings and levels of comfortability, confidence and experience with creative music making like group improvisation and collaborative composition, I adapted and applied aspects of Smith’s (2014) Music Background Questionnaire (Appendix G).²⁴Smiths’ questionnaire addressed some of the tensions and challenges I anticipated, particularly as they related to participants’ accustomed ways of knowing and being musical. Similar to methods employed in this study, Smith’s (2014) dissertation research also presented some non-customary ways of engaging in music (e.g. visual art, rhythmic movement, free musical improvisation). The 17-point MBQ designed for this study was also meant to capture participants’ musical biography (i.e. major, instrument/s, years playing etc.) and to gather any preliminary conceptions they may have had around sound, silence, noise, music, improvisation, composition and creative critical consciousness. The MBQ served as a

²⁴ I am grateful to Dr. Smith for taking time to talk with me about the questionnaire and granting me permission to use and modify it for this study.

useful tool before, during and after the SSWs, and offered a starting ground to begin conversations in the pre-SSW workshop interview.

Pre-SSW Interview (pre-SSW)

Before the first SSW, I met with participants individually for approximately forty-five minutes to clarify MBQ responses and to address any concerns or questions they had. Seven questions guided this semi-structured interview (Appendix H). Some of the sentiments behind the questions overlapped with the MBQ, and others were meant to deepen my understanding about participants' everyday sound and listening experiences. In question one, for example, participants were asked about their frequency consciously interacting with everyday sounds encountered and then to describe those in as much detail as possible. As these were music majors with varying levels of comfortability, confidence and experience with improvising and composing, I was also interested in how they might imagine and articulate any potential similarities and/or differences creating with sounds instead of musical notes and accustomed patterns (i.e. scales, progressions, etc.) posed. The MBQ and the pre-SSW interview gave me an opportunity to better grasp participants' initial dispositions towards thinking in, with and through sound, and also consider how I might go about adapting workshop material to meet individual and group needs. Both interviews in this study were "dialogic" (Roulston, 2014; Tanggaard, 2009).

While this method of interviewing is "relatively new in qualitative methodological literature and has yet to influence work in music education research" (Roulston, 2014, p. 255), I chose this interview technique for this participant group because of the nature of the research questions being investigated, especially RQ3 which speaks to constructions and perceptions of musical identity and roles. The dialogical interview protocol invites "dissenting opinion and

discourses within a particular field...reflect broader diversity within institutional talk and practices...[and] accounts for the “polyphon[y]...of voices, words, and discourses that structure the conversation” (Tanggaard, 2009, p. 1499). This was important for this study because G2 participants represented a body of voices that had been musically trained and socialized to listen, think and be in particular ways that do not necessarily involve creative music making activities like improvisation and composition (Isbell, 2008; Randles & Smith, 2012; Roberts, 1991; Woodford, 2002). Participants’ ratings of their comfort and confidence levels improvising and composing, collected in the MBQ, corroborates the uneasiness some felt when stepping into creative identity roles.

Sound Session Workshop (SSW)

SSWs were a space to listen, improvise, create, critique. We met in one of the music teacher education spaces on campus. It was spacious, comfortable for moving freely around and offered an assortment of musical instruments for participants to play (e.g. frame/hand drums, Orff mallet instruments, acoustic/electric guitar, kalimba, boomwhackers, percussion). SSWs were approximately three hours. Snacks and drinks were available for participants to hydrate and refresh during two fifteen minute breaks. Three principles guided the SSWs: *soundplay*, *soundthink*, and *soundcreate*. Nine activities, three within each principle, offered opportunities for participants to practice thinking in, with and through sound: *SoundBreakers*, *SoundGames*, *SoundShaping*, *SoundCritique*, *SoundStory*, *(Re)Structuring SoundStories*, *Visualizing Sounds*, *SoundSight* and *SoundJam* (See Fig. 3.1).

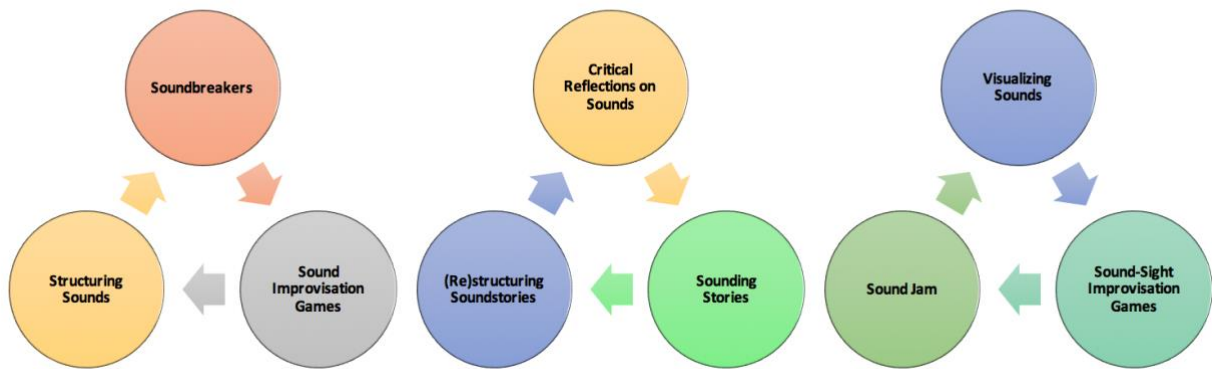


Figure 3.1 | SSW Flow

Sessions began with *SoundBreakers*: check-ins, outlining the day’s session activities, addressing scheduling and logistical issues etc. *SoundGames*, such as “Sound that Color” and “Sound your Favorite Food” involved establishing a steady tempo using mallets, drum sticks, finger snaps, body percussion, voices, or any other available sounding material participants wished to pick up, try out and play, and then calling out favorite foods and colors, thus connecting to participants’ senses like taste, scent and visual ‘tones’ of everyday life. SoundGames also included listening and responding activities inspired by Pauline Oliveros’ “Environmental Dialogue VIII” from her text scores (*Sonic Meditations*, 1971). Oliveros’ piece provided a way for participants to pause, listen and interact with sounds streaming in/outside the space.

Sound Collection and Classification (SCC) Table

The SCC table was an online space for participants to upload their recorded mp3/wav/m4a sound clips, and then complete categories describing any sensations they may have felt when first encountering the sound; where/when the sound was heard; any significance/context the sound may have awakened (e.g. memory, place, person, thing etc.); any musical aspects; ways sound could be orchestrated and arranged. The SCC table was a repository for all study

participants to draw from for musical inspiration and instrumentation/orchestration creative ideas, as well as a site to prompt critical dialogue about sound and its attributed meanings in participant's lives. [Appendix K]

Sound Walk (SW)

The SW was meant to provide an alternative space for dynamic listening, reflection and interpretation. Using SW as a method for data collection and analysis has a sustained history (Adams et. al, 2008; McCartney, 2014; Behrendt, 2019; Schafer, 1977; Semidor, 2006; Staško-Mazur, 2015; Westerkamp, 2007/1974). Sound walks have been practiced to uncover social, political, and ecological issues including: gender identity and place (McDowell, 1999; Shimakawa, 2007); urban development and displacement (Augoyard, 2007/1979); pedagogy, race, and activism (Black & Bohlman, 2017); cultural geography and sensuous urbanism (Butler, 2006; Degen & Rose, 2012; Radicchi, 2018); acoustic ecology (McCartney, 2010; Droumeva & Jordan, 2019; Wagstaff, 2002); creative social practice (Black & Bohlman, 2017; Gutierrez, Long, & Leonardson, 2017; Ouzounian, 2014); and creative critical aesthetics (Paquette & McCartney, 2012; Taylor & Fernström, 2019). The SW in this study was meant to uncover and call attention to some of these issues. As it is, participants spoke to some of the sonic disturbances they felt during the SW (See below soundcurrent 3).

I adapted aspects of Hildegard Westerkamp's (1974) seminal sound walk prompts and Amanda Black & Andrea Bohlman's (2017) critical re-enactment of these prompts. For example, before the SW participants were prompted with questions about their expectations for the walk. Responses were posted to the SCC table. During the SW, participants were asked to listen out for signals, or sound gestures that strike them as significant, or out of place and incongruent with other sounds in specific surroundings. Personal cell phones and/or other audio and/or

audio/video recording devices were used by each person to record such sounds. University sounds, park sounds, downtown sounds were recorded during the SW, and afterwards participants posted their impressions, assumptions, surprises, juxtapositions, nuances, irritants, etc. to the SCC table. Given that the university had moved courses online, the normal bustle, hum and murmur on campus was absent. Participants described it as “eerie” and “strange” and spoke to the “sadness” of the silence as something indicative of the unsettling moment in which we were now living. Earwitnessing (Wargo, 2018) and eavesdropping on the environments trekked and traversed during the SW was encouraged and expected. At the end of the SW, we enjoyed a lunch at a downtown food court and listened some more to the sounds of the city. Some of the sounds recorded from the SW may be heard on the playlist.

Given mobility factors and concerns expressed, G2B participants engaged in a solo venture Sound Map (SM) activity. While the principle was the same as the SW, the outcomes were different as these two participants did not get to have the same sense of group exploration their counterparts (G2A) had. Participant 2 did express a sense of sadness and disappointment that their group did not get to participate in a group SW. In the future, I will reconsider how to adapt this method for persons desiring mobility accommodations. This was a weakness in design as it was unanticipated from the start.

Sound Piece (SP)

Participants were initially asked to compose two original Sound Pieces (SP) — one alone and one collaboratively. However, given multiple interruptions and pandemic stresses, it became apparent that this was too much to ask. Instead, participants worked in SSWs to create more collaborative sound pieces. This worked well because it alleviated some of the stress of an

‘outside assignment’, especially for participants whose work schedules were in constant jeopardy. It also offered more opportunity for listening, experimenting and creating as a group.

SPs offered participants an opportunity to freely use their creativity and imagination using sounds they and their co-participants had collected and classified on the SCC table. Sound Pieces were composed using acoustic instruments as well as MIDI (Musical Instrument Digital Interface) in a DAW of participants’ choosing. G2A used Ableton Push to upload sounds they had collected and experimented arranging them over original loops. [Listen Link: <https://on.soundcloud.com/ScVJF>] Participants’ SPs spoke to scenarios and issues significant to them. Playing with temporal-spatial aspects of perception, one music undergraduate created a sonic collage which included various ensemble rehearsals heard playing throughout the day while in their practice room. The initial impression I had when listening to the SP is that they had moved to/between each rehearsal space to record. However, as they articulated in their journal, they were stationary sitting in their practice room, and “each time I close and open the door, a new group is playing” (G2B, Participant 2, SNJ). Thus, the practice room door became a filter through which to let in sound to their space at different times during the day. [Listen Link: <https://on.soundcloud.com/CyZDA>]

I was reminded of Seattle-based composer, improviser and phonographer Christopher DeLaurenti’s (2007) *Favorite Intermissions: Music Before and Between Beethoven, Stravinsky, Holst*, which in his words was meant to “expose the unexpected, overlooked, and hidden skeins of music woven in the world around us” (<https://deLaurenti.net/favorite/>). Sound Pieces generated for this study offered a variety of creative output and also opened opportunities for participants to practice listening to their world in ways many said they had not previously. SPs generated critical discussions around professional music and teaching career aspirations, economic

inequities, noise of consumerism, health and well-being, and many other personal and topical issues relevant to participants' lived experiences.

Sonic Score Visualization (SSV)

Participants were asked to create a graphic representation for their SP. During the study, I supplied some examples of how composers have used sounds in their compositions as well as illustrations of graphic scores (Oliveros, 2013; Sauer, 2009).²⁵ SSVs were also used in the Sound Session Workshops (SSWs) as improvisational game material. For example, in one SSW each of the four participants listened a few times to a recording of their SP, "Day at the Course" and drew a graphic representation of what they heard. Participants talked the group through their individual scores, highlighting ways they delineated time, key change, melody and rhythmic contour. Then, they realized each SSV using guitar, ukulele, piano, recorder and plastic golf balls. While basic melodic content stayed similar, each iteration yielded varying effects in tempo, dynamics and articulation. SSVs were not so much about achieving an accuracy of musical representation, but more so about mirroring compositional processes like notation via thinking with, in and through sound visually. Participants were mostly unfamiliar with graphic notation. This proved beneficial because they were working with a clean slate so-to-speak. The ways they spoke about their SSV showed that they had begun to conceptualize sounds as shapes, pictures, patterns, text and waveforms; thus, moving outside of their normal way of approaching music notation and thinking sonically as composers.

²⁵ Classic FM: <https://www.classicfm.com/discover-music/latest/graphic-scores-art-music-pictures/>
Saffron Hall: <https://www.saffronhall.com/articles/graphic-scores-explained#:~:text=A%20graphic%20score%20is%20just,who%20plays%20or%20sings%20it>

Focus Group (FG)

Our final meeting consisted of a focus group guided by nine questions (Appendix J). Participants were reminded of the overall purpose of the study and offered opportunities to share and discuss their feelings and takeaways. Guiding questions were designed to elicit feedback about the study methods and gather participants' reflections about any shifts they may have noticed in their creative critical consciousness as a result of the study activities. Because participants were and would be music teachers in various capacities (e.g. public/private school, private studio), FG questions were centered around perceived benefits, hurdles and feasibility of a sound pedagogy from their experiences thinking in, with and through sound. The FG also opened a space for final sharing and cross-talk about limitations of the study — both in its methods and in the ways they were facilitated. Participants were generous, open and critical about the many obstacles faced as a result of the pandemic and the areas where they felt more pedagogical guidance was needed. As participants had worked together throughout the study there was a level of comfort among them such that candid conversation could ensue. Questions related to their experiences working collaboratively and in what ways their prior musical experiences influenced their ensemble dynamic were also discussed

Post-SSW Interview

Post-SSWs lasted approximately forty-five minutes and were guided by twelve questions (Appendix I). Similar to the pre-SSW interview's "dialogic" protocols, the post-SSW individual interview opened a space for participants to reflect and share their feelings and thoughts outside of the group setting. It also allowed me a chance to consider comments made in the FG and offer any elaborations or clarifications. As this was the final point of contact with participants, outside of any future member checking, the post-SSW interview also gave us an opportunity to engage in

frank discussion and wrap up any last minute details participants wanted to express about their experiences. Because this study sought to uncover the pedagogical potential of sound — the things a music teacher might do in the classroom practice — the post-SSW interview surveyed participants’ final statements, curiosities, challenges and critiques.

One participant, for example, expressed their struggle with some of the ideas and activities, and wanted to know more about how this study might inform future music learning. Their insights and concerns touched on some of the language and themes of the literature informing this study, like John Cage’s “purposeful purposelessness or a purposeless play” (Hill, 2018); especially as it related to their feelings about musical engagement and daily life as always needing to be an exercise with “purpose” and “just getting things done” (Participant 2, G2, post-SSW Interview). In the same breath they spoke to the scheduling constraints university music faculties face when “like there’s already so much to know when it comes to music...it’s just a lot right...It would just be a whole new thing to learn about with sound. But like it would be a lot about prioritizing like what you teach more of, what gets taught less” (Participant 2, G2, post-SSW Interview). Thus, the post-SSW interview opened conversation into ideas that had not necessarily been previously expressed as participants could freely speak in hindsight to their experiences.

Participant Profiles

Six university music undergraduates participated in this study — Four, in the first iteration (G2A), and two in the second (G2B). The quartet consisted of a pair of clarinet players: Sarah and Curtis; a soprano: Deana; and Gorlami, a “self-taught” acoustic guitar, keyboard,

ukulele and melodeon player. The second group featured Elon, a violinist and Participant 2, a harpist, pianist and bassoonist.²⁶

Sarah

Sarah was a 4th year music education undergraduate at the time of the study, plays clarinet in various ensembles and was vocal about her desire to continue challenging herself, learn new ways of teaching music. She also counts piano and ukulele as secondary instruments, though she is not “insanely good at them [laughs] but I can somewhat play them” (pre-SSW Interview.). She admits, “There's still some perfectionism in me that wants to play the right notes...I know there is no “right” answer to improvisation but in the moment I still panic” (G2A, MBQ). Her perfectionism has not stopped her from challenging herself as a composer as she does so “for fun all the time in terms of creating melodies and writing pop songs and such” (Ibid.). The earliest sound she ever recalls hearing is “talking. My earliest memory is when I was in daycare before kindergarten.” The loudest sound she recalls is “the THX logo sound. The sound vibrated the whole house.” The softest sound Sarah recalls is her “own breathing. You almost don't notice it because it is a reflex and isn't constantly in your attention.” Her favorite sound is “laughter. Means people are happy and is contagious and I will start laughing which means I am happy. I like being happy.” Her least favorite sound is “squeaky boots. Physically makes me cringe.” The scariest sound she says, “when I am in public and a video I am about to watch on my phone starts playing at full volume and I start to quickly turn the volume down.” And, the funniest sound she recalls is “Something probably tied with a video (some sort of meme video)” (MBQ). When asked how she would define creative critical consciousness, Sarah wrote

I define critical consciousness as using the information displayed before me and

²⁶ All participant names are pseudonyms.

questioning its implications in today's society and culture. I would assume that creative critical consciousness has to do with taking the information displayed to me and creating a mind map of all of those ideas and contents? I am not entirely sure. (MBQ).

Throughout the study Sarah never strayed away from trying out new sounds. The only hesitance she showed was during the session where we used Ableton Push (i.e. MIDI launchpad) to upload sounds from the SCC table and compose loops. Part of this, I noticed, is because others in the group, particularly 'the boys' took the lead in playing on the launchpad. When I gently persuaded them to step back and let Sarah take control, she created the loop heard above that became the structure on which sounds would be arranged. [<https://on.soundcloud.com/ScVJF>]

Curtis

Curtis was a 2nd year music education undergraduate and also played clarinet in various ensembles. He and Sarah played together in the university wind ensemble. He counts piano and acoustic guitar as secondary instruments (MBQ). Like Sarah, Curtis took piano lessons before he started clarinet, though he "can't play anything super classical" (pre-SSW Interview). On guitar, however, he felt "thrown into the deep end" because his private guitar teacher "wasn't a classical guy and didn't "drill technique" in ways he was used to learning piano and clarinet So, "eventually [he] just started trying stuff on [his] own" (Ibid.). He sees "music and poetry as a gateway to expressing oneself" and particularly how "poetry slams have been "helpful for him in dealing with social anxiety" (Ibid.). He says, "I don't have any professional improvisational experience, but I like to think that I have self taught myself how to improvise, albeit being at a slightly basic level" (MBQ). He describes his composition efforts as a "lost cause...[as] it's hard for me to apply concepts I know into a personal composition" (Ibid.). Curtis says the first sound he ever recalls hearing was "My parents making baby noises at me when I was a baby" (Ibid.)

The loudest sound he ever recalls hearing was “A very fervent timpani roll in a band piece (whose name escapes me).” The softest sound he said he remembers is, “My mother waking me up at 4AM to go to the hospital.” I asked him about that in our pre-SSW Interview. He said,

This was back in grade four and my tonsils were too big and I had to get tonsil surgery. It was probably amplified for me cause I was like a small child that's why it stuck with me so much. Cause it was 4AM like cause nowadays it takes a much louder sound for me to wake up [chuckles] I need like five alarms. Yeah, but back then I was a pretty light sleeper. It's kinda like those TV shows where it's just like they're in a dream sequence and you always like they hear their name repeated over and over but like oh, it's in the dream, but, no it's actually in real life cause someone's telling you to get up. But for me it was like, cause I wasn't really much of a dreamer back then. So, it was kinda like darkness for me. And then, just this small little like emergence of sound just like [whispers] “Curtis, it's time to get up” stuff like that, like a whisper. I think the reason I find it the softest, less because of the decibels or whatever, but more just because it came out of like nothing. Yeah, it was like the creation of a sound from complete silence.

(pre-SSW Interview).

During the Ableton Push session, Curtis showed enthusiasm towards learning more about Digital Audio Technologies (DAT) and so enjoyed playing with the Akai MPK Mini MK3 I had brought in as another MIDI controller, that he bought one for himself before the study was completed.

His interaction with sound-based methods allowed him, he said, “to go beyond the boundaries of [his] classical ear” (post-SSW Interview).

Deana

Deana was a 4th year music education major. Her primary instrument is voice and she sang in university chorale as well as produced original music using DAWs. She said, “I’ve been really getting into creating commercial music productions” (MBQ). As she articulated above, her reasons for participating in the study was to think about different ways to approach music with young children and to expand her own compositional palette. She also wrote when asked what she would like to gain by being a participant in the study, “To see the sounds around me in a new light.” When prompted about her comfort and confidence levels improvising and composing, she said,

Any sort of Western classical environment, I feel like I’m breaking rules...I feel very comfortable improvising with pop music, as it seems to be a huge part of recreational music...Composing has been getting easier the more I do it. At this point in my life I have made it a daily habit to compose something. Occasionally putting lyrics to a melody, other times it’s programming drum parts. I feel fairly confident in the sounds I create...I feel less confident composing classical music, it just doesn’t flow as easily and I feel as though everything I create is more calculated in comparison to the recreational composition I do (MBQ).

Her distinctions between ‘recreational composition’ and ‘classical composition’ struck me, as I had not quite heard them discussed in that way. During our member checking exchange she wrote,

I think “classical composing” would be composing while intentionally using concepts within music theory to draft a piece. Likely it would have a specific vibe, something like a vocal art song or something intended for orchestra.

“recreational composing” as the act of working on music through feel without

referencing specific music theory concepts. Probably this would also have been written for secular musical ensembles (like a 4-piece band) or music meant to be made electronically opposed to acoustically! (emphasis added and addressed in soundcurrent 3)

For Deana, the first sound she recalls ever hearing was “Laughter.” The loudest sound was “Power box exploding in the street not far from her house.” The softest sound she first recalls is her “Cat paws crawling across my duvet.” Her favorite sound is “Laughter” and her least favorite is “Yelling (angrily).” The scariest sound for Deana is “gun shots” and the funniest sound, “Laughter.”

Both Deana and Sarah laughed a lot during the study. Their laughter combined brought joy to others and we all responded with our own laughter. This was noticed especially during the various interactions of *A Day at the Course*, where we ‘bounced’ actual golf balls on the floor across to each other, setting unstrict tempo changes. Laughter also became part of the sonics at play during one of the *SoundGames* where we connected sounds from the SCC table to 5 colors (blue, green, yellow, red, orange) and used plastic balls corresponding to those colors ‘throwing sounds’ back and forth. So, depending on which color the sound was associated whenever that ball came around to a person they had to sound it out. The timekeeper used a bouncing basketball and their job was to steadily increase the tempo. *Motor Synth* heard above is an example of that activity [Listen Link: <https://on.soundcloud.com/V8Wfs>]

I was reminded how significant the sound of laughter is as an expression, as a release and as Hartmut Rosa (2020) notes, “a corporealization...a mode of experience and behavior...capable of convincing us precisely of the soundness of our relationship to the world” (p. 227) —

something sorely needed for everyone during these strange and sadly ill times. Indeed, as Sarah said in the final interview, “Yeah, social anxiety is real. Particularly in group settings like the sessions where we are playing and improvising. Once there’s laughter a sense that we’re all in this together ensues” (post-SSW Interview).

Gorlami

Gorlami was a 4th year composition major and cinema minor. His primary instrument was acoustic guitar, bass being secondary. He was “self-taught” on both and picked up others along the way. Originally from Panama, Gorlami came to Canada as a pre-teen, picking up a new language and a new found love of learning musical instruments. His main career goals are in “sound design and audio engineering” (FG). He wrote in his MBQ,

I have no formal training in lead sheet “jazz” improv but more so in improvising by listening. Improv sessions not based on common practice tonal music tend to be easier to engage with as there are less restrictions/expectations on skill level required. I like to experiment with composition and have less of a “western common practice” approach. If I am allowed to experiment, I feel more comfortable than when restricted by “common practice” rules” (MBQ).

Gorlami was especially critical, even cynical in his introverted way about his experiences studying composition. He spoke to what he feels is a “hypocrisy” in his composition courses wherein “At university they teach what’s been done and how to think about it. Not how to do it” (post-SSW Interview). When describing his experience of the first SSW activities (HeartPulse) he said,

Much of the creation for me started by listening to the outside world (buses/cars, etc...) and comparing it to what was being created inside. I noticed that rhythms would often

emerge from all of us which would then become the thing we all gravitated to and influenced our improvisations. Once a rhythm had been set, I noticed it would be difficult to change it as it became the foundation of our improv. (SNJ).

Gorlami's insight into *entrainment* at play — the biomusicological sense of synchronization or temporal locking process in which one system's motion or signal frequency links to/in/with the frequency of an other system — prompted me to go back and listen, then view SSW 1. I heard what he was describing and began to think about Steph Ceraso's (2018) urgent argument for *Why Sonic Education Matters Now*. Specifically, her educational work in, what she calls *multimodal listening*, wherein “multimodal listeners are attuned to how sound is connected to and intertwined with different senses, spaces, and objects...enab[ling] listeners to understand how their bodily experiences in specific contexts shape are are shaped by sound” (pp. 3 & 6).

Gorlami performed on multiple instruments during the SSWs. Given his interest and proficiency in Digital Audio Technology (DAT), he offered to show other participants how to maneuver around the Ableton Push. He took his time describing DAT concepts other participants were unfamiliar with. I recalled punk rocker turned music teacher Jonathan Kladder's (2021) study about how DAT and its concepts are not as prevalent and should be integrated more strategically and consistently into music curricula and classrooms. And, then I wondered if Gorlami, an “autodidact”, clearly critical of a system he has spent four years in could ever consider himself an instructor within conservatory or university music halls. Really, though are these not the kinds of music educators needed to expand curricular thinking and practice?

Elon

Elon, a 4th year music education major, violinist and published chess aficionado, rated himself as having zero levels of confidence and comfortability improvising and composing.

(MBQ). He explains his rating by stating, “Classically trained, no improvisation experience, struggled with Dictation in 2nd year GIM” (MBQ). In segments; this is how Elon writes and speaks. He is not verbose. Rather, he is laconic. There is something in the way he speaks, however, and perhaps more so in the spaces between the sounds that come out as words, that speaks volumes to the depth of his intellect, sensitivity and responsiveness to the world.

During the Focus Group (FG) session, with his co-participant, we listened back to the Sound Piece (SP) they composed together. He speaks about the sounds they recorded, specifically the “sign blowing in the wind” and the “tall grass” that his co-participant said she liked for its “regularity.” Elon says, “Yeah, I guess looking back you recognize rhythms from each one. It’s actually not completely random” (FG). In my Crossfades from the Field notes, I jotted, *How deep listening and reflection on sounds encountered show that there is an ‘order’ of sorts; partly, perhaps a desire to locate or impose ‘musical’ patterns; this is super helpful when improvising and composing* (Researcher Notes).

In listening to their score, *Parent’s Daily Journey To Picking Up Child From School* [Listen Link: <https://on.soundcloud.com/CpwCw>], I am drawn into a soundworld that is at once present and distant. Brief and full. I hear similar sonic material and structural elements in Elon’s solo sound piece, *Travel Journey* [<https://on.soundcloud.com/tPnMD>] and in both, I recall his definition for creative critical consciousness: *Thinking purposefully about something and understanding its implications for society* (MBQ). And, his first sound: *Mother’s voice*; loudest sound: *Airplane taking off*; Softest sound: *Breathing*; Favorite sound: *Orchestra playing*; least favorite sound: *Nails on a chalkboard*; scariest sound: *glass chattering*; funniest sound: *Whoopee Cushion going off* (Ibid.).

As I work to piece together similarities and differences between the two sound pieces, I recall *Rainy Day Candy Wrappers*, then I move to *Heart Pulse*, and then I realize what it is I am doing: I am searching for meaning in my listening via comparison of and differentiation, which is not necessarily searching for meaning in the widest sense possible, but a search for a specific meaning based upon preconceptions. And, then I am reminded of Voegelin's (2010) notion of *suspension*,

The task is to suspend, as much as possible, ideas of genre, category, purpose and [music's] historical context, to achieve a hearing that is the material heard, now contingently and individually; suspension = not disregard for the artistic context or intention, nor is it frivolous or lazy, but rather appreciating the artistic context and intention through the practice of listening rather than as a description and limitation of hearing. It is listening with open ears so as to formulate and articulate our own perceptions and notions, rather than what is necessarily told to us to "know" and come to believe about a work; Left in the dark, I need to explore what I hear (p. 4).

And, at this moment I realize this is exactly the purpose of a study of this kind: to listen with open ears, to know that darkness is not the absence of light just as silence does not mean sound is not present. I realize too that Elon's definition of creative critical consciousness is indeed about purposeful thinking and understanding its implications. It is in essence, as John Cage (1973) would say, "a way of waking up to the very life we are living (p. 12).

Participant 2 (P2)

Participant 2 (P2), as she amusingly asked to be named for this study, is a serious, astute 1st year harpist, pianist and bassoonist double majoring in Music and Kinesiology. In the post-

SSW Interview I asked each participant if they could talk about any changes they had noticed in the ways they listened to their environs while participating in the study? P2 said,

To be honest with you [laughs] I don't think I noticed any changes except for while I was actively doing the Sound Walk cause I knew I had a purpose of listening for sounds and listening or understanding how I was perceiving them or listening to them, but other than that I don't think I changed because like it's not something I actively think about.

(post-SSW Interview)

Given what I had gathered from working together during the study, I wondered, and asked if she had noticed other areas in her life where she did things solely with a purpose in mind. She reflected,

Yeah, I guess that's been my way of going through life [pause] and I don't think it's necessarily a good thing. I mean [smiling sound in her voice] [laughter from both of us]. Okay, let me explain. So, if purposeful means it becomes the extent of your day and your life is just getting things done, and often usually, I mean in life, life isn't just all about getting things done, right? It's about, just you know you can enjoy moments, spend time with your family; and sometimes, like that idea of always needing a purpose to do something, uhm, [long pause] might get in the way of just kind of surrendering and abandoning your day to whatever happens. I think it's a lot of like this dynamic of control, like wanting control over your life or something. (Ibid.)

The conversation connected purpose to P2's hectic schedule of coursework, practicing, concerts and her notion of "achievement", which in the end she said, "Maybe I should be doing less [laughs]." I asked, "Why?" She laughed, and said, "I guess it's an inner feeling." I asked if

she had ever heard of Cage's notion of "purposeful purposelessness or purposeful play?" She said she had not, however she said,

I have heard about play being super important and that makes sense...Then, I would like to say that maybe even listening to, listening in your environment for sounds, it's not necessarily like a pointless thing to do...It might also be a habit that's developed, right? Like if you consciously think about listening to sounds more you'll develop the habit and it'll be kind of just a subconscious thing? (Ibid.)

Emergent Themes Across the Currents

In this next section, four emergent themes are discussed: 1) health and well-being, 2) listening as a personal-social-political act, 3) sonic language and (dis)embodiment, and 4) negotiating and expanding creative identity.

soundcurrent 1| "minding sound" / "connecting via nonsense"

"Pandemic Pieces" [<https://on.soundcloud.com/w4rvE>]

Respirating, breath, aspiring,

Emergency signaling sickness, death

Birds unsung, unheard before the silence

(Researchers' Crossfades from the Field)

"Lost Toddlers" [<https://on.soundcloud.com/8Wmec>]

Pandemic Sounds: Reflecting on Sound, Power, Health & Wellbeing

The pandemic was/is an unprecedented moment in current memory. Scrambling to make sense of the world and the things, stirring about day and night unevenly, haphazardly seeking to sustain a semblance of security amidst uncertainty, then realizing grasp on ‘reality’ is fleeting as it slips away into fragile states of being. COVID-19 took a toll on undergraduate university students’ mental and social-emotional wellbeing (Elharake, et. al, 2022; Odriozola-González, et. al., 2020; Rosset, Baumann, & Altenmüller, 2021). Similar to music performance and music education majors in Rosset, Bauman & Altenmüller’s (2021) survey, participants in this study “perceive[d] the pandemic as challenging, particularly with regard to their mental health status” (p. 9). Study participants spoke about pandemic stressors they were facing at home, school and work — particularly those whose families were immunocompromised or elderly, and ones who worked in the food and hospitably industries where job insecurity was prevalent.

Study participants also felt “that the university’s measures were appropriate and in their personal interest” (Ibid., p. 5). While many university music programs were in complete lock-down during the first year of the pandemic moving their music performance activities solely online, the Faculty of Music at the university where study participants were enrolled invested the human energy and economic resources to keep participants actively making music safely. In reflecting on her sound piece, *SoundWalkMap*, P2 said,

At school, I hear many musical groups rehearsing: the conducting class, the jazz pedagogy class, wind ensemble and jazz ensemble. In my recording, each time I close and open the door, a new group is playing. I am grateful that at school I get to hear people playing music together almost every day (G2B, SNJ) [Listen Link: <https://on.soundcloud.com/StRh6>]

Participants also spoke about the various “new” sounds they heard and familiar sounds that had gone silent.²⁷ During the trilocale group SW activity, participants commented on the “eerie silence” (SW) through campus, especially in the University Student Center (USC) which was “always loud and filled with voices, Tim Horton’s coffee machines and people just being noisy” (SW). In *Pandemic Pieces*, heard above, participants musically recontextualized sounds they encountered more frequently than they had before the pandemic: *ripping of paper towels from washroom dispensers, squishy squirt sound of hand sanitizer pumps and bird song*. They also said they heard *less coughing in public probably because people don’t want you to think they’re sick and be judged* (G2B, SSW1).

Their insights correspond to what Deaville & Lemire (2021) tracked in their study of Western news coverage of the pandemic in key sites of infection and quarantine — Wuhan (China), Tehran (Iran) and Milan (Italy). They suggest that the ways Western media manipulated sound, silence and music to portray these particular cities in ways that feed into the West’s political narratives and “reflect cultural biases and potentially promulgate stereotypical and prejudicial representations of race and place” (p. 1). For example, the austere silence of “Wuhan’s lockdown as a sonic and visual ‘ghost city’...correspond to the Western pre-dispositions toward the Chinese state as oppressive and its citizens ‘invisible’” (p. 3). Or, the Western media’s apparent amplification of Iranian Deputy Health Minister Iraj Harirchi’s “coughing and sweating” spell as if to represent the “chaos of the theocracy in Tehran” (Ibid.). Or, the “impromptu balcony performances” in Milan that “fulfilled a Western sonic bias toward

²⁷ Two telling articles in the New York Times trace the absence of sound across parts of the city and beyond, highlighting the impact unexpected silence had on dwellers.
<https://www.nytimes.com/interactive/2020/05/22/upshot/coronavirus-quiet-city-noise.html>
<https://www.nytimes.com/2021/03/05/podcasts/one-year-coronavirus-anniversary.html>

the response to the health crisis in the ‘land of song’” (Ibid.). Interestingly, Deaville (2023) notes,

Some balcony musical performances did take place in Wuhan, but they did not capture the attention of the Western news media. Thus the South China Morning Post posted a video about how ‘residents of virus-stricken Wuhan are boosting morale in the city by shouting from their windows and singing patriotic songs, yet the accompanying images are of gigantic apartment blocks and city office spaces with fixed windows. The sounds are of people shouting responsorially, but the graphic titles note how the officials discouraged the practice for fear ‘that it might spread the infection’ (South China Morning Post 2020) (p. 258, fn33).

For Deaville, the sonic bias of the Global North preferred showcasing the anthems, opera excerpts, and flute and bassoon duet playing Bach, because it “invok[ed] race, ethnicity, and nationality to connect with with favourable audience dispositions...white, middle class (and thus at least to a certain extent privileged), able-bodied, and heteronormative-looking” (Ibid., p. 255).

Thus, sound, silence and music are not innocent bystanders. They are not somehow a “decontaminated space...in a cultural and historical vacuum...in perfect sterility” (Taruskin, 1995, p. 6). Particularly in troubling times, such as the pandemic, they can be used to amplify levels of fear, anxiety and depression. So, asking participants to listen closely to the Sonic Commons during this unprecedented moment in history, while perhaps risky, was revealing. Deana spoke about how listening out for sounds and thinking and creating sonically caused her to be “more focused than she was previously” (G2A, post-SSW Interview). Three years prior to participating in this study, Deana suffered a traumatic head injury in a car accident sustaining a concussion. The impact on her frontal cortex impacted her memory processing. Since then, she

also experienced hypersensitivity to sounds. As a result, “noise cancelling headphones” became a regular part of her outdoor attire (G2B, SNJ). For the Sound Walk (SW) she removed her them.

She said,

It was really cool to pay more attention to sounds that I've previously labeled as “background noise.” I just pay more attention to everything, like audibly. Your girl kinda' stopped paying attention especially post-concussion for a while there because your girl could not even keep track of myself, so I was like how am I supposed to keep track of all of these things happening around me. So, it was really interesting to like move outwards from myself again, cause I haven't in like three years in that kind of way. The whole like experience felt very therapeutic and mindful for me, the whole soundcurrents like experiment or study. It was a more mindful way of like consuming and interacting with music than previously I had never considered that way. Music always seemed like a job before. (G2A, SNJ)

Participants also spoke about the “meditative” benefits of the Sonic Score Visualization (SSV) activity as a way to address “mad anxiety” and “calm the mind” (G2A, post-SSW & FG).

soundcurrent 2 | “sound unsafe” / “sound protected”

“Day At The Course” [Listening Link: <https://on.soundcloud.com/U7jqT>]

There is a fairly prevalent homelessness crisis in my town, and the walk downtown unfortunately highlighted that issue. The walk in this location made me less comfortable as I had to face my privilege, and I felt a little more unsafe. Generally, I walked around with earbuds in previously, so if a person was making a lot of noise (yelling or otherwise) I would turn my music up and drown it out. But on this walk I had to pay attention to it, and see how the sounds played with the environment (Deana, G2A, SNJ) [Listening Link: <https://on.soundcloud.com/U7jqT>]

The environments were very different from each other, in the mostly abandoned UCC, it felt natural to go around trying to make sounds from the objects there, as it felt like we were creating the usual hustle and bustle that would typically exist within. However, the atmosphere changed as we went to the forest; for me, it almost felt unnatural to be creating and recording sounds, as it felt like we were intruding on an environment that was meant to be appreciated in the moment as opposed to manipulated out of it. Yet again, downtown was different, as there were many people there, and while there wasn't much recording to be had, we did encounter some very real scenarios that teach some life lessons about how not everyone is granted the same opportunities or able to live as luxuriously as others. While it was nothing new to me per say, it was definitely amplified by the fact that we were actively listening during the walk, and taking these common scenarios and thinking of how we could twist it in a way that lessens the negative impact it would usually have. (Curtis, G2A, SNJ)

Sonic Disturbances: Critical Consciousness via Sonic Lifeworlds

Sound is fundamentally a “public encounter” experienced through aural sensation and perception (O’Callaghan, 2017; O’Callaghan, 2007). As such, participants were confronted with sonic disturbances that rattled their consciousness as it put them in touch with the world and the things in ways they had not anticipated. Having lived in this not very large city for five years, I have noticed an increase in sounds participants found uneasy: piercing sirens, people yelling at real and imagined others, Jurassic sounding tractors, forklifts, jackhammers and pile drivers slamming through concrete, ripping apart and reconstructing streets on which more and more bodies of persons without homes are laying down (and dying) in tents, blankets or no coverings at all. The sounds of anger, frustration, apathy and fear permeate this university town. And,

participants heard it, felt it, and were ‘touched’ by it. Some, for the first time consciously with open ears.

A significant motive for critical pedagogies is to work towards locating connections between the world and the things (people, places, spaces, policies) and how such impacts one's relationship in/with/to the world — including its’ things out-of-sync — its’ things unsound. Such connections are moments of noticing. It is an action. Once notice has been taken, reflection is to follow. Another action, yet deeper into consciousness. In those moments of reflection there is an opening to consider why the world and the things may sound as they do. Maybe even think about ways we contribute, consciously or not, to what Attali (1977) would call the “social score” (p. 9) — ways that each of us make the world sound, and unsound. Perhaps, contemplate potential solutions, possibilities for addressing ills heard in the Sonic Commons. And, if circumstances permit (and they don’t for everyone, as Deana mentioned above) to move from mental activity to full-bodied physical motions towards change in whatever way, shape or form that may take depending on ones’ circumstances, means, capacities and levels of patience.

In the case of study participants, ‘noticing’ involved them hearing and listening to moments that for some felt “unsafe” and for others “nothing new,” as Curtis said. It is interesting to me that Curtis expressed a thought to *twist it in a way that lessens the negative impact it would usually have*. During a member check email exchange, I asked him to expound. He wrote back:

I believe this was specifically in regards to some of the more "negative" sounds we heard in the city (people swearing, making rude remarks), sounds that we have almost been accustomed to in our everyday lives; evidently, they are not very pleasant, but instead of having a viewpoint of "oh these people are just being rude/uncouth", taking it from a stance of "why are they saying these things/what can we learn from them", because at the

end of the day, everything is a bit of a learning experience, and we shouldn't just cast away/generalize these things as some sort of forbidden societal act.

Curtis, like other study participants, was asked to consciously tune in sonics at play in the world (and its' things) to better understand in what ways, if any, sounds encountered could catalyze aspects of consciousness that move them to (re)engage with some of the more troubling aspects of being in the world.

Deana, as heard above, said such sounds “rubbed her the wrong way.” She also talked about sounds in “protected spaces” sounds she heard at the local golf club where she works and how these sounds signify for her misogyny, white male privilege and rules of patriarchy that go “unpunished” [Listen Link: <https://on.soundcloud.com/wzAUj>]. I would venture to say that some of those sounds resounding in her workplace are in some ways not entirely unrelated to the unsafe sounds that rub her the wrong way. Sounds, Xochitl Gonzalez (2022), calls the “quiet, silence of gentrification.”²⁸ Or, perhaps what sounds like whizzing steam being released from a pressure cooker soaring through the air directly after the *crack/ting* of a golf ball being hit while spending a leisurely day at the course.

soundcurrent 3| “bending notes, breaking rules, extending technique”

“The Internet” Listening Link: <https://on.soundcloud.com/iPDmm>

Today was a lot of fun w/ the throwing sounds between each other and passing it off. It was challenging to get people's eye contact to throw the ball and catch their sound and then make a new one. It made me more aware and listen more attentively. It was also just hilarious that none of us have good eye-hand coordination as we were chasing the ball. When we started

²⁸ <https://www.theatlantic.com/magazine/archive/2022/09/let-brooklyn-be-loud/670600/>

to make some sound based on a scene, I was picturing the full storyline. So for the waking up late one I was picturing the alarm clock and then the tempo and intensity getting faster and bigger as you are rushing to wherever you are trying to get to. Then w/ the trampoline one I was picturing the bouncing so I tried recreating that on the sticks by making a loud noise then fading out also increasing tempo. I felt like today we all listened to each other faster because we locked into a tempo faster and everyone played off each others rhythms with more dynamic contrast. I think I also felt way more comfortable today going into activities than last week. I wasn't as hesitant making weird noises. (Sarah, G2A, SNJ)

It was very fun getting to approach sound from a new perspective. Even though I consider myself a fairly proficient musician, it is interesting that the attentive listening we did through the small exercises really helped hone my understanding of music. Through attentive listening, I was able to almost hear music coming from everyday sounds that would have typically gone unnoticed during a regular day. The spectrum of what can be considered music is far vaster than what any of us can really imagine, and it was refreshing to get a small taste of what lies beyond our learned boundaries of musical education and experience a sensation that wouldn't be able to happen on a non-attentive day. Using instruments to create scenarios and circumstances was something that really stood out to me as well, just being able to use our instruments to create a type of atmosphere that represented our topics. (Curtis, G2A, SNJ)

(Un)Learning To Make Sense: Language and (dis)Embodiment

The improvisational games and activities used in this study were meant to invite participants to think, create and perform with sounds. As participants discussed, this was not always easy especially when collaborating as they did not have a common language with which

to describe sounds. Their musical lexicon could only carry them so far and concepts such as pitch, timbre, melody and rhythm did not quite suffice when working with sounds like rustling *rosary beads*, *unfolding duvet* or *opening a wallet*. On the SCC table column labeled *musical aspects*, participants mostly noted dynamic features of sounds and offered descriptions of what sounds could potentially be used to portray or convey compositionally. For example, rustling rosary beads were described as *glass, high-pitched, lento, quiet*; unfolding duvet as *low pitched percussion, sostenuto, repetition, rustling* and opening wallet as *staccato*. With regards to this, Participant 2 said,

I have a feeling that in our language like when we're speaking about things, we don't have very many words for describing sound that are accurate or detailed enough to describe sound. So, that's one challenge that I think all people who deal with sound and music face is How do you express something you're hearing, either actually hearing or hearing in your head that you want someone else to understand as well? So, I guess when we were working together with [Elon] where like we wanted to describe a sound we were hearing and one person describes it one way and another person describes it another way, but it's really just like a language, I don't know, deficit or something, not in the people but in the language itself. (G2B, post-SSW Interview)

How do you express something you're hearing, either actually hearing or hearing in your head that you want someone else to understand as well? This is an important and not easily answerable question. Especially, as R. Murray Schafer (2005/1995), in his forward to Augoyard's & Torgue's seminal lexicon, *Sonic Experience: A Guide to Everyday Sounds* notes, "We all have ears, but we listen differently as a result of our culture, professions, education – and our language, since not all words dealing with sound are even translatable" (p. xii).

The SCC table was a good start for collecting participants' perceptions around ways to describe their everyday sound encounters. Future iterations and modifications of these methods could offer participants' some of the language they felt missing here. However, as Participant 2 summated,

I guess something interesting is that even when working with others with sound uhm it's still like their, ... still patterns and like things that we agree on when we listen to different sounds, so like we can even though we might not describe a sound the exact same way, I think we can agree on like whether the sound was loud or quiet. And, I think that I guess that's like ah, I was talking about language barriers but I think that's like a language like a positive thing about language is that we still can describe sound and work with it together and understand each other. For example, with the paper towels ripping. When they came into the improvisation or composition we all agreed that it was a more like rhythmic or percussive sound like a shorter sound, and therefore it was used for the like underlying beat, or like ostinato as opposed to like we kind of all agreed, well implicitly agreed that it wouldn't be a melody [laugh] for example, a melodic instrument. (G2B, post-SSW Interview)

In addition to questions around language, participants perceived differences in how they played musical instruments to convey sounds. When it came to their primary and secondary musical instruments, they were encouraged to play around experimenting with unconventional fingerings and embouchure adjustments. As there were a variety of musical instruments available in the room where we met, participants were also asked to pick up and play musical instruments they had not played before. When they did, they noticed that their lack of physical familiarity on an instrument, while “daunting” at first, gave them a sense of “liberation” (G2A, FG) from

‘right’ and ‘wrong’ notes.

Curtis’ statement about the *spectrum of what can be considered music and what lies beyond our learned boundaries of musical education*, as well as Sarah’s observations about her *eye-hand coordination* being tied to *listening more attentively*, touch on ways in which study participants perceived changes in how they interacted with musical material and musical instruments via their embodied ways of knowing and being musical. This was particularly noticeable when participants played on musical instruments with which they were unfamiliar. For example, Deana, a vocalist, featured along with Sarah on *The Internet*, was not a percussionist. However, she said,

As we did it, it made more and more sense and it really helped my understanding of percussion specifically which is so odd. I did not expect to gain insight to how percussion works out of improvising with sounds. (G2A, FG).

Similarly, Sarah, a clarinetist, spoke to her interaction with the MIDI Launchpad Controller, Ableton Push, a musical instrument with which she was unfamiliar. She expressed,

Yeah, I think Ableton had more opportunities for manipulating the sound, and it gave us more opportunity to create something different with it. And I think just the idea of having the pad out in front of you, I had no idea how to use that thing. So melodic content was literally me just hitting random pads and making this. Having the pad in front of you is like you're interacting with technology differently. You're physically interacting with technology. You are physically creating the sounds in real time with that technology. So it's a different experience in that sense. While in the moment of me playing my clarinet, it's like I have to think about my composition, my air, my embouchure, the notes in front of me, my fingers. I have to think of all these other things in that specific moment. Well,

with the pad and with technology, it's like all I have to think about is moving my finger onto that pad and that's it. (G2A, FG)

What study participants were noticing finds resonance with De Souza's (2017) notion of "bodily technicization" discussed in relation to Heideggerian notions of technology and Merleau-Ponty's philosophy of the body (as discussed in Article 2). De Souza's work investigates ways musical instruments (which are indeed technologies) influence musical organization as well as players' bodies and minds, including musical thinking, listening and performing. When Sarah lists the *in the moment processes* she goes through while playing the clarinet, she is involved in layers and patterns of musical actions and perceptions as her body, mind and clarinet work dynamically to produce, adapt and apply meaning to her musical experiences — artistically, aesthetically, functionally and technically.

De Souza's discussion about "instrumental alteration" specifically "how changes to an instrument relate to sonic organization and bodily technique" (pp. 83-84) was present in the ways participants described their performance experiences (both inside and outside of the study).²⁹ Specifically in the ways they manipulated their instruments and their bodies to achieve a particular sound, especially sounds that were not necessarily tonal (e.g. automobile, paper towels, frozen ice on branches) or tonal yet unique in timbral qualities making it challenging to produce without alteration (e.g. rolling an egg in a metal bowl, opening the door to the fire extinguisher). By *bending notes, breaking rules* and *extending technique*, participants demonstrated that

The instrument can be understood as a creative partner. Improvising with other

²⁹ Sarah shared a clarinet piece she was working on in studio where the composer instructed "parts of a kitchen sink to be attached to the clarinet" (G2A, pre-SSW Interview)

musicians — or instruments — demands listening, respectfully attending to their difference from me. In this sense, instrumental alteration reveals instrumental alterity” (De Souza, 2017, p. 101).

And, as Sarah pointed when discussing her being “daunted” initially when improvising for her Deana’s piece, *The Internet*,

I'm a very tactile person. I was just trying to figure out the technical bits of it too much instead of kind of like being in the moment and listening. And that was at the beginning. And then once we got, like, more at least once I got a little more confident, it stopped being so much about the technical bits of it. And then it just kind of became like a warm up, in a sense because I was now focusing on my embouchure and my air support that I learned in my lesson instead of the actual bits themselves. But I think, yeah, it was daunting at first. And then once we kind of got more into it, I experimented away from my clarinet. (G2A, FG)

Experimenting away from is foundational for creative ways of thinking and being. It is an improvisatory act. It is what Heble (2000) calls Sun Ra’s “postcolonial pedagogy of cultural resistance... an oppositional pedagogy that interrogates the forces that have shaped the production and distribution of knowledge” (pp. 121, 136-137). This includes ‘embodied knowledge’ that lives in our subconscious, as Curtis describes his ‘earring’ away from to hear, think and create . He says,

I know the ear likes to hear tonal things in the ear, and my finger subconsciously like to sort of shift towards a more tonal center. But then at the same time, I just kind of think like okay, what if I just do something fun? What if I just kind of throw something out there, see if it works, and it doesn't, then we just try again.

And I think, I think that's just the beauty of improvisation because there's 'you can't get it wrong', and you can't really, like it might not sound good, but there's nothing wrong about it. I think the dissonance is also a healthy part of a musician's repertoire, so-to-speak. (G2A, FG).

[Listen Link: <https://on.soundcloud.com/p3Qja>]

In the final soundcurrent, participants share some of their tension around what Recharte (2019) calls “the premium that is put on *Music* — over any other kinds of ‘sounding’” (p. 70 *Italics original*).

soundcurrent 4 | “Embrace what sounds wrong to my ears”

“SoundJam 4” [Listen Link: <https://on.soundcloud.com/x59Qo>]

Music students often suffer through their theory and aural skills courses, viewing them as no particularly relevant— perhaps even painful— sidelines of their musical studies. This is a shame because an unsatisfying experience with theory early on in students' studies frequently has a negative effect on their attitude throughout their college years and beyond into their professional lives. (Laitz, 2012, p. xvii)

“HeartPulse” [Listen Link: <https://on.soundcloud.com/uk49B>]

The first important step in the study of harmony is that of clarifying the purpose of such study...[that] we must realize that musical theory is not a set of directions for composing music. It is rather the collected and systematized deductions gathered by observing the practice of composers over a long time, and it attempts to set forth what is or has been their common practice. It tells not how music will be written in the future, but how music has been written in the past (Piston, 1978/1941, p. xix).

Like, who gets to make up those rules?

While participants varied in their levels of comfortability and confidence improvising and composing (MBQ), they each spoke in their own ways to some of the tensions they have either experienced personally or have heard along their musical journey as it relates to Idealized music of the Common Practice Period. They spoke of *classical ears*, *carbon copies*, *pale imitations* and *right notes*, *wrong notes*, *perfection* and then someone asked,

Like, who gets to make up those rules? (Sarah, G2A, FG).

Indeed, who does?

It is not a who, however, as it not a singular person or even a group of persons. It is not a professor or a music department, or a music program (as one participant speculated. I think in jest). It is not a university or a conservatory, or a symphony or an opera company. It is none of those and it is all of those and more, because it is not an ‘a’ or an ‘an’ — It is a concept. And, as concepts go they tend to stick whenever they are not regularly questioned, reassessed and reimagined. Concepts are a vehicle for values. Values can be singular and collective. Values are associated with resources. And resources, like values and concepts are always a site of struggle. So much struggle, that when one turns to ask, ‘What are the rules’ it may be an answer of comfortability, custom and all of the other words that get in the way of systemic change.

So, who gets to make up those rules? Anyone. Each one in the ways we do or do not question them and move with, through and against them en route to realizing what it is we want from them and coming to an understanding as to why the rule is there in the first place. Piston says so why the rules are there . Clearly. And, yet Laitz’s sentiment rings true for a number of undergraduate music majors — some of whom participated in this study.

As articulated in Article 1 and stated again above, balancing cultural heritage and cultural production is a significant step forward in addressing some of the issues participants expressed. Sound, specifically an attention to *sonic lifeworlds*, offers an “approachable entryway” (Deana, G2B, FG) for students to *experiment away from* “ordinary conceptions of music” (Cox, 2018, p. 137) en route to producing their own meanings over a heritage they have inherited. The ordinates of the Common Practice Period, as Piston articulates above, were plotted during a particular time, in a few specific geographies and by a very particular group people for particular reasons. I think a task for music educators is to take a look at some of those people, the places from which they came, and the times in which they lived and see where parallels, patterns and paradoxes may exist in relation to their historical context and the current. In such revisiting it may be lessons are found, or more questions and possibly and answer or two. The thing about the current is it represents flow, exchange, and dynamism. In the current, old rules may be bent and other rules made.

Implications / Conclusion

Findings and themes from this study carry the potential to invite alternative ways of being in the world and being in the world musically. University music undergraduates in this study found their *sonic lifeworlds* filled with information about music, identity, culture, food, family, friends, religion, fear, anxiety love and hope among other things. They took moments to pause, pivot and reorient their ears and in so doing recovered aspects of their health and well-being, grappled with injustices they heard, found new and fun ways to express their musicality on their instruments and renegotiated aspects of their identities as musicians, composers, improvisers, performers, and future music educators.

Their willingness to engage sonic lifeworlds in the ways they did and to talk out some of the challenges sonic thinking presented and how these might be managed as they think about carrying them into their future careers as musicians and teachers, highlights the potential sound-based methods may have in music education. Clear calls were sounded for curricular attention to Digital Audio Technology (DAT), tools they saw useful for integrating “concepts” (Kladder, 2021) around sound and sound/musical production.

The cross/intra/inter disciplinary nature of sound makes it possible to connect across disciplines and research interests such as music theory and cognition, performance, musicology, popular and progressive music, music therapy, digital audio technologies (DAT) including mobile music creation apps and general education. Co-curricular research and development could point to other potential benefits, locate interconnecting ‘principles of sound’ as each area of research and performance is listening out for specificities and nuances. Participant 2 was genuinely interested and

hesitant about sound education’ being emphasized over classical or traditional music education. I think both have their place, and I would be sad to see one or the other disappear” (Participant 2, G2B, Email Member Check).

Collaborative curricular research and course development ventures may help ameliorate such sentiments. As Participant 2 articulated: *both have their place*. And, this is so. However, it is space shared wherein ontological, epistemological and phenomenological encounters such as sonic lifeworlds may be met from various avenues of thinking and pedagogical application.

I view such an enterprise potentially educative and stimulating as openings to other ways of sensing, thinking and being musical present themselves. Sonic lifeworlds offer possibilities to address some of the pressing questions currently being entertained in music education.

This concludes the Articles section of the dissertation. I now pick up where we left off before Article 1 with the Data Collection and Summary.

Data collection and analysis summary

Data for this study came in across an elongated period. While it is true longitudinal studies may allow more time in the field to gather rich data, the longitudinal aspects present in this study's data collection schedule were not 'normal.' It was not as though I was in the field regularly immersed. However, in spite of the interruptions, interferences and needing to reup ethics protocols due to expiry dates, rich material has emerged from the data. This is because the participants in this study, including my partnering high school teachers, were consistently committed to seeing this study through. The emergent themes are a direct result of participants' willingness to go along the bumpy ride thinking, creating and listening together in sound.

This is also because time has a way of allowing understanding to set in and unfold in nuanced and varied ways. The time it took to get to the member checking phase, for example, (~18 months) unearthed perceptions and insights about participants' experiences that may have otherwise been felt and expressed differently had this interaction immediately followed workshops and interviews. Time and space allowed for seasoned responses. Salient aspects of participants' remembrances came to the fore, as their experiences (and mine) had room to ruminate. Participants' responses to questions, verifications and elaborations were necessarily contemplative given the time between their direct experiences and later *recollections* — a literal and figurative 'gathering again' of memories and reflections.

Pauses were frequent during interviews, focus groups and member checking as participants took their time thinking about moments in the study that stood out to them as significant, problematic and potentially impactful. Because of circumstances beyond any of our control (i.e. the pandemic) there was not a usual sense of rushing towards an end answer. This allowed for patience to manifest, which in turn, offered space and time for exploration and

excavation of ideas, feelings and perceptions. In these ways, participants and I came to reflect on our work together via what Ulmer (2017) calls a *slow ontology* and what Dhillon, Dillon and Meloche (2021) situate as *transformative education: finding voice through body and space*.

Thus, the following thematic analyses represents responses to the research questions in non-linear ways and highlights the candid transparency of collective engagement this study engendered.

Data analysis thematic summary

The research questions explored in this study were:

1. How do participants describe and discuss their relationship to sounds they encounter?
2. In what ways, if any, do their discussions connect to wider personal-social-political issues?
3. How do participants describe their creative engagement and processes using sounds to improvise and compose?
 - (a) In what ways, if any, does such engagement and processes influence their perceptions about music, sound and personal creativity?

In this section, I highlight the findings and themes that emerged during the study as they relate to each research question. I will present some examples highlighting participants' experiences and expressions. In broad strokes I will summarize the meanings I made that led me to the themes. The accompanying articles are replete with specificity as it relates to each study group. Findings and themes are also expanded and elucidated within those.

How do participants describe and discuss their relationship to sounds they encounter?

Participants across both study groups said they had never really been aware of or paid attention to everyday sounds, thus a *relationship* and *encounter* was something new, unexpected and unfamiliar. One high school study participant said,

I discovered that sound is something we don't pay as much attention to as I might have previously thought. There are numerous sounds of which I hear everyday, but didn't realize until I started this project (Bryce, G1A, SNJ)

Another high school study participant said, “working on this project made me discover new interests and sounds” (Suzanna, G1B, SNJ).

An undergraduate study participant reflected,

When I was collecting the sounds on my own and recording them, that was again something I had never really done before. So, it was interesting to listen for sounds that I could record and that would make sense to record that like would be identifiable if you heard them again. I noticed that when I was trying to record the sound of rain, like a hard falling rain, after listening back to it it didn't sound the way I had perceived it in the moment and maybe in the future I wouldn't be able to tell if I heard that sound that it was falling rain. So, it just opened my eyes to both the uniqueness and ambiguity of sounds.

(P2, G2B, FG)

Recalling their solo SW, an undergraduate participant said,

I often do go on walks without any noise distractions, so the concept wasn't completely foreign. However, I don't usually intentionally listen to my surroundings in the way that I did on the walk. It was really cool to pay more attention to sounds that I've previously labeled as “background noise.” In every location I walked in,

the chirping birds or cars passing have previously functioned as ambience rather than unique musical ideas. I enjoyed the environments seemed to know when a particular sound should be highlighted — I loved hearing the rustling leaves hush in time for little birds to bring their melodies to the forefront. (Deana, G2A, SNJ)

With ears open to new sounds in their environment, participants spoke to sounds making them feel states such as: comfort, annoyance, calmness, terrifying, frightened and amazed, peaceful, alert, adventurous, curious, tired, appreciative, bored, anxious, delighted, happy, worried, irritating, patient, sad, panic, eerie, tense, enthusiastic, among others collected on the SCC table under Sensation (G1AB/G2AB, SCC). They also spoke to sounds as a way to hear musically — thus, for undergraduate participants mostly, shifting their perspectives on ear training, aural skills and other ways of embodying their musical instrument to produce different tones via embouchure and/or finger manipulation (See Article 3).

In what ways, if any, do their discussions connect to wider personal-social-political issues?

Participants across both study groups connected everyday sounds in both *real and virtual worlds* (e.g. VR, video game) to feelings and thoughts they had around current events such as: the pandemic, school shootings in the USA, policies around mental illness and gun control, crass commercialism via the “noisy Internet” (Deana, G2A, SSW 1), “deadly routine” (Joel, G1A, SP) of corporate capitalism, homelessness and economic insecurity, inequity, debauchery and lechery evinced in toxic male masculinity (e.g. “A Day at the Course”) — confronting “sounds unsafe” “sounds protected” sound of “privilege” (Deana, G2A, post-SSW Interview; Curtis, G2A, SNJ) and navigating their way through both during the Sound Walk (SW).

Participants also spoke to personal circumstances such as “hypersensitivity” (Stéphanie, G1A, ST) to sounds and the ways sounds create discomfort and can be employed to make one

“go a little crazy” (Ibid.) which (via class discussion) connected to sonic warfare, torture and currently, the bombardment of air raids in Ukraine.

High school participants linked sounds from their virtual worlds to personal feelings of nostalgia “My phone android notification sound brings back some childhood memories. Most of the time it gets annoying but it’s catchy at the same time. I think it would be good in an upbeat song” (G1B, SCC). Another high school study participant said, “My cat named Tigre makes this sound when I pet them. It makes my heart warm and it also comforts me” (Ibid.).

How do participants describe their creative engagement and processes using sounds to improvise and compose?

Participants found *language* such as “metallic sounding” to describe the sound of a “sign blowing in the wind” (P2, G2B, FG) as well as “screechy metallic” (G1A, SCC) to describe the sound of “opening a locker” (Ibid.) Undergraduate study participant, Gorlami said,

Much of the creation for me started by listening to the outside world (buses/cars, etc...) and comparing it to what was being created inside. I noticed that rhythms would often emerge from all of us which would then become the thing we all gravitated to and influenced our improvisations. Once a rhythm had been set, I noticed it would be difficult to change it as it became the foundation of our improv. (G2A, SNJ)

Elon reflected, “I guess looking back you recognize rhythms from each [sound]. It’s actually not completely random” (Ibid.). Curtis, an undergraduate study participant said,

Even though I consider myself a fairly proficient musician, it is interesting that the attentive listening we did through the small exercises really helped hone my understanding of music. Through attentive listening, I was able to almost hear music coming from everyday sounds that would have typically gone unnoticed during a regular

day. The spectrum of what can be considered music is far vaster than what any of us can really imagine, and it was refreshing to get a small taste of what lies beyond our learned boundaries of musical education. Using instruments to create scenarios and circumstances was something that really stood out to me as well, just being able to use our instruments to create a type of atmosphere that represented our topics.

(G2A, SNJ)

Another undergraduate participant said, “I am hesitant about "sound education" being emphasized over classical or traditional music education. I think both have their place, and I would be sad to see one or the other disappear” (Participant 2, G2B, Email Member Check).

Undergraduate participant, Elon spoke to “accessibility” improvising and composing with sound afforded him, “It’s more accessible. You don’t need to like know how to compose normally like traditional style and yeah, I found that helpful because I actually haven’t taken a composition course before” (G2B, FG).

Participants in the undergraduate group, specifically, spoke to a lack of language in their repertoire to accurately describe sounds (See Article 3). In the future, I think adding a column to the SCC table, specifically to accumulate participant-generated adjectives relating to their unique sounds, could help build a vocabulary for such descriptors, and thus make their collaborative process smoother; since that is where they found the most difficulty.

Phillippe, a high school study participant said, “I listen to my environment differently, I hear sounds differently, I make music differently” (G1A, SNJ). Making music differently for Phillippe, involved his experimenting with Digital Audio Technologies (DAT). His ten-page bilingual journal offers a systematic detailed account of how he shaped his sounds using a

number of digital audio effects to produce an original sound piece that he likens to “painting a personality” (G1A, SNJ). Another high school study participant, Stéphanie expressed,

During this study, I learned many things about music/sound. I realized just how much sound is around me at all times. I was able to use my creativity to take my everyday world and turn it into a new world with new sounds. (G1A, SNJ)

In what ways, if any, does such engagement and processes influence their perceptions about music, sound and personal creativity?

Across both participant groups perceptions about music, sound and personal creativity were expressed as being interconnected. An undergraduate participant recalled first experiences in SSW 1 that involved recontextualizing sounds via instruments and rhythmic movement,

During the exercise without our instruments, I found that the group was far more hesitant about contributing to the soundscape. I noticed that even though I was technically on my instrument, it felt more challenging to improvise because the sounds we were making weren't melodic. Along with that, in the first activity I was far more focused on keeping in time with my heartbeat and staying with my own rhythm instead of following the time of another participant. During the second half however, I noticed I cared less about following myself, and cared more so about contributing to the atmosphere of the room. When we repeated the activity on our instruments I found it much easier to improvise, especially as the activity went on. I found that I was less self conscious about the sounds that I was making. Somehow that activity felt more musical, even though the only thing that had changed was the instruments we were improvising on. I really enjoy the activity

of making and imitating sounds while throwing balls. I thought it was a really interesting way to combine music and movement. I find it interesting that the second time through felt more fluid—the first attempt at the activity felt very rigid. (Deana, G2A, SNJ)

Another undergraduate said,

One thing I found interesting was just my ability to be able to and when we were doing our collaborative jam sessions, my ability to remain like, in the feel like I was actually contributing to the jam session because I don't have a performance [degree], so I often feel like I know how to perform. And then when we get into these jam sessions, where there's not the rules, but there's not such a control that you can't do whatever you want. I like that we can really do whatever we want and see how others react and maybe copy that and to see how we talk to each other in the musical sense. (Gorlami, G2A, SNJ)

Anil, a high school participant reflected on his favorite part of creating using sounds,

My favorite part was actually using the sounds from the table and like piecing them together. It sorta felt like a puzzle kinda. Like how could I best represent these sounds in the piece? And like, actually recording sounds unique from everyone else's and like actually interesting, that was pretty tough. Cause like you can't just record the exact same thing as everyone else did. You have to give like something unique. Or at least that's just what I thought. (G1B, SNJ)

Cy, another high school study participants tied together his perceptions on music, sound and creativity by connecting benefits of listening to sounds in the environment by reflecting,

The benefits of it is creativity. Like so, say you want to make a song or something produce a beat and you, say, go for a walk and you listen for one exact things and you hear that one exact thing. I think that can be helpful. Like, say I'm walking with my

friend somewhere and I just zone out and I'm just listening to the environment, I feel like that's where creativity can be. (G1B, ST).

An undergraduate study participant said,

So, my perception of myself as a composer/creator? I think this study partly helped, uhm, what's the word? I can't think of the word right now, but it gave me a little bit more confidence when it comes to improvisation and composition. before I thought I was very perfectionist about it and thought I had to follow certain steps or like take a course on it or learn how to do it properly, in my mind I was thinking it that way. But I think now it's given me more freedom to just experiment and like through sound that I'm able to still do like some kind of composition or creation and it doesn't have to be perfect or like what I view as composition in like music, you know. Yeah. (Participant 2, G2B, FG).

Data analysis thematic summary

Shared themes emerged across both study groups as did themes unique to each participant group. Shared between both groups was ways sounds in *virtual and real worlds* interplay. For university music undergraduates this showed up in the ways they recreated sounds from the internet and connected them to the noise of consumerism. For high school study participants, real and virtual worlds co-existed/co-mingled and helped to inform their understanding about and relationship to/with the world, which in turn called forth and shaped aspects of their identity, culture and ways of being musical (e.g. SM personas/avatar/*NY Walking*).

Both groups' intrigue with *digital audio technologies* as a way to manipulate sounds to fit their specific creative intentions spoke to their interests for pursuing such professions in the

future (e.g. OST and video game music, sound design, audio engineer, music producer).

Undergraduate study participants expressed a desire to learn more about DAT and wish it was included in their university music experience so that they could feel confident to include it in their future teaching.

Furthermore, the ways they connected sounds heard in their virtual worlds with sounds from their real world and “grappled” (Rosa, 2020) with the implications of what that means societally, speaks to the value digital audio technologies and its “concepts” (Kladder, 2021) may afford in fostering creative critical spaces in music teaching and learning spaces.

In addition to the interplay/co-mingling between virtual and real, both participants' groups correlated sounds from their varying environments to have “effects” (SNJs, ST, FG) on their *well-being and embodied ways of knowing*. For undergraduate study participants, embodiment of sounds was seen in two different scenarios. First, some sounds made them “uncomfortable” as they came up against the cries and shouts of persons living on the street, or sounds from their jobs that made them “cringe.” Second, in their work to recreate sounds using their primary musical instruments, and other instruments with which they were either less familiar or had no “training” in at all, they talked about the “freedom” they felt “picking up” new instruments as their “fingers didn’t know right from wrong notes...allow[ing] everyone the opportunity to explore sounds they may not usually” (Gorlami, G2A, SNJ).

For high school study participants, well-being and embodied ways of knowing, was elucidated in the ways they spoke about their own feelings of isolation and “comfort” they felt “petting and listening” to their “purring cat”, as well as the “hypersensitivity to sound” expressed. It also manifested in their observation that they their bodies were “cooped up” for two years and that going for sound walks and sound mapping activities allowed them to “get outside

and get some noise” en route to “fresh air” to breath, inhaling and sustaining their relationship to the world and the things. Anil’s observation of the sinister “evil laughter” sampled and included in multiple sound pieces produced by his classmates, caused him to ask: “How did you manage to so accurately recreate our humor. This perfectly describes our sense of humor. Just random loud noises.” I asked him what he meant by “our” and he said, “Our generation as a whole” (G1B, SSW 6). Laughter, as Rosa (2020) reminds us is a bodily function “convincing us precisely of the soundness of our relationship to the world...[and] late modern society’s irresistible need to *laugh*” (p. 78 Italics original) is evinced through its cultural products such as sitcoms, and as Anil points out, video games.

Language, that is seeking a lexicon to describe sounds was the fourth theme to emerge and specifically related to university music undergraduates. They cited noticeable language deficits/limitations for thinking in and speaking about sound (outside of western theory courses’ tonal “common period” canonical tonality, ear training, etc.), “the classical ear” (Curtis, G2A, SNJ), which pointed to tensions they commonly expressed between their “traditional” ways of knowing and being musical, and more fluid, explorative and non-rule binding ways engaging musically, which speaks directly to schooling, pedagogy and curriculum at the tertiary level.

The themes articulated carry implications and possibilities for an attention to sonic lifeworlds within music education. In the following section I will highlight possibilities for future research and then offer ending reflections.

Future Orientation

Now, here at the ‘where do we go from here’ moment, I contend sonic lifeworld work carries potential for addressing curricular tensions between cultural heritage and cultural production; or as Curtis said, when talking about his *classical ears and finger*, “a delicate dance” between conservation and innovation. Innovation, as meant here, signifies experimentation, renewal, altering and making new. Or, colloquially: *a shake up*.

Everyday sounds collected in this study have shown themselves to be colorfully diverse, intellectually and imaginatively stimulating, playfully coherent and potently rich material with which to think, question, create, critique and shake up conceptions of music, noise, silence, identity and values. This is not insignificant as conceptions around such phenomena and their applied “rules” largely factor in shaping the ways we come to believe, trust and sustain modes of knowing and being, conserving them and serving them up as monuments to model.

Sonic lifeworlds played a pivotal role in participants navigating their relationship to/in/with/through the world — musically, socially, spiritually, emotionally, physically, creatively and critically. Indeed, as Sarah, said,

I feel like criticality kind of goes within the creativity because those personal and social meanings are kind of what sparks that creativity...you kind of need those personal and social meanings to be creative in a sense. (G2A, FG)

Drawing from Henri Lefebvre’s (2004) notion of *polyrhythmia* (the coexistence between or among two or more rhythms in space and time), Sylvanus (2013) suggests “quasi-musical phenomenon” should be an area of study within music and music education as “these interactions present an opportunity to evaluate or re-evaluate our aural sensory sensibilities to noise and urban experiences — an ability that is clearly far removed from common sense” (p. 168). I

would add that an attention to *all* environments and their respective soundings present an opportunity to evaluate, re-evaluate and excite our “sonic sensibilities” as we work to re/orient ourselves in multiple spaces and places. Indeed, noise too often carries a connotation of unwanted and Othering, when we may think of it as, “our process, direction, and experimentation, our creative journey — our creativity and passion. A position. Now and the future” (Schwartz, 2011, p. 855).

As of Sylvanus’ writing, Ruth Herbert and Nicola Dibben’s (2018) study of 10-18 year-olds’ intra-and extra-musical subjective understanding of musical excerpts including “examples participants might not ordinarily categorise as ‘music,’ [such as] spontaneous chanting in a football stadium” (p. 377) comes close to quasi-musical phenomenon investigation. However, research with similar age groups *and* focusing on everyday sounds, to my knowledge, has not been conducted. The work here in *soundcurrents* draws on sounds participants collected from their everyday treks, unlike Herbert and Dibben who used “experimenter-selected” excerpts, which were primarily musical.

Future research could include curated pre-selected everyday sounds for participants to listen to and describe any musical and extra-musical perceptions. It could also be interesting to have multiple participant groups representing various demographics listen and describe sounds specific to locales they live and frequent (e.g. school, malls, church, sports events) as well as introduce sound clips from areas outside of their specific areas. This would involve the researcher engaging in pre-study fieldwork recording. Potential benefits include: developing deeper ecological awareness about soundings from various environments; sharpening aural acuity; and opening sonic fields for musical imagination, play and creation. Such benefits could facilitate music students’ capacities to ‘play’ music without a printed score, to hear, listen and

respond more easily because they are less afraid of getting things ‘wrong.’ As Hickey (2012) articulates, “Once we have opened up our ears to the vast possibilities of what music is and can be, then the options...are infinite. And the musical experiences...will be enriched beyond our imagination” (p. 157).

Ending reflections...

The methods shared here represent one way to bring together concepts related to creativity and criticality in music education teaching and learning spaces. Taking to heart current calls for a sound pedagogy, a sound approach, a sound education and a music education that resonates, these methods were synthesized and applied to evaluate any feasibility and impact a reorientation towards sound may have for music students. Applying insights across the fields of archaeoacoustics, sounds studies and sensuous scholarship, I suggest these methods are a beginning to a way of thinking in/with/to/through sound. Partly, this is because

The universe of sound consists in its ability to express or generate all manner of different and differently nuanced relationships: strife, loneliness, desolation, resentment, alienation, and tension, as well as yearning, refuge, security, love, responsivity (Rosa, 2020, p. 94)

And, mainly because the experiences participants in this study elucidated the ways sonic lifeworlds can engender spaces for exploration, excavation, collaboration on its way to catalyzing creative critical consciousness. And to be sure, creative critical consciousness is not an Ideal state of perfection. Indeed, it is the opposite of perfection. Some *thing* that is perfect denotes no more room for growth. Creative critical consciousness, like sound, is a materiality that only becomes manifest as it is practiced — continually moving, sometimes looping, and always shaping and reshaping perceptions, paradigms and pointing forward (and backwards to

go forwards again) towards possibilities; picking up frequencies before unheard through feedback from the current.

Emergent themes and findings from this study show that high school music students and university music undergraduates have much to offer in helping shape the future of music education. In multiple and varied ways throughout the study, they showed up to actively think, reflect, push back and grapple through and with serious conversations about music, music making and making music in a world that sometimes seems so discordant that one may wonder: Why make music at all? And yet, that is precisely what participants did. They simply entered music from a slightly different vantage. In this orientation unfamiliar acoustic fields were heard such that Stéphanie expressed,

I realized just how much sound is around me at all times. I was able to use my creativity to take my everyday world and turn it into a new world with new sounds.

What a profound way to think about that! I am reminded of the epigraph in Webster's (2016) article, *Creative Thinking in Music, Twenty-Five Years On*. Particularly, Shinichi Suzuki's statement that "The real essence of art turned out to be not something high up and far off. It was right inside my ordinary daily self (p. 26).

I am also reminded that the worlds we create: real, imaginary, virtual or otherwise are not always sound (as both participant groups perceived). It is in those spaces and towards such places too a music education that resonates may listen.

References

- Abeles, H. (2010). The historical contexts of music education. In H. Abeles and L. Custodero (Eds.). *Critical issues in music education: Contemporary theory and practice*. (1-21). Oxford University Press.
- Abrahams, F. (2005). Transforming classroom music instruction with ideas from critical pedagogy. *Music Educators Journal*, 92(1), 62-67.
- Abramo, J. (2014). Music education that resonates: An epistemology and pedagogy of sound. *Philosophy of Music Education Review*, 22(1), 78-95.
- Abramo, J. (2015). Application of sound studies to qualitative research in music education. In (Ed. C. Randles). *Music Education Navigating the Future*. (271-291). Routledge.
- Abril, C. R., & Gault, B. M. (2008). The State of Music in Secondary Schools: The Principal's Perspective. *Journal of Research in Music Education*, 56(1), 68-81.
- Ackerman, D. (1999). *Deep play*. Vintage.
- Adams, M., Davies, W., Bruce, N., & Cain, R. (2008). Soundwalking as a methodology for understanding soundscapes. *Proceedings of the Institute of Acoustics*.
- Adams, S. (1983). R. Murray Schafer. *Canadian Composers/Compositeurs Canadiens 4*. Toronto University Press.
- Adedamola, K. (2013). The menace of vulgar lyrical composition among some Nigerian contemporary artists. *Nuskka Journal of Musical Arts*, (153-165).
<https://www.unn.edu.ng/publications/files/images/Nsukka%20Journal%20Vol%202%20L%20ast%20and%20Final%202013.pdf>
- Agamennone, M., Palma, D. & Sarno, G. (2023). *Sounds of the pandemic: Accounts, experiences, perspectives in times of COVID-19*. Routledge.

- Akpakpan, J. (2011). Cultural imperialism: The Nigerian art music composer and his works. In Y.S. Oniyiuke, I.O. Idamoyibo and D.C.C. Agu (Eds.). *Mekism and knowledge sharing of the musical arts of Africa: A book of general reading in honor of Meki Nzewi* (202-207). Nimo, Anambra State, Nigeria: Rex Charles & Patrick Ltd., Nimo.
- Akiyama, M. (2010). Silent Alarm: The Mosquito Youth Deterrent and the Politics of Frequency. *Canadian Journal of Communication*, Vol. 35, 455-471.
- Akuno, E. (2013). Music education: Towards the preservation of conservation of Kenyan music and dance. *Nuskka Journal of Musical Arts*, (214-235).
<https://www.unn.edu.ng/publications/files/images/Nsukka%20Journal%20Vol%202%20Last%20and%20Final%202013.pdf>
- Alexander, L. (2017). Genre. In Mark W. (Eds.). *The Routledge companion to imaginary worlds* (p. 298-304). Routledge.
- Allsup, R.E. (2022). Can Creativity Ensure Criticality? *Philosophy of Music Education Review* 30(2), 126-131. <https://www.muse.jhu.edu/article/867641>
- Amabile, T. M. (1990). Within you, without you: The social psychology of creativity, and beyond. In M. A. Runco & R. S. Albert (Eds.), *Theories of creativity* (pp. 61–91). Sage Publications, Inc.
- Anthony, B. (2018). Mixing as a performance: Creative approaches to the popular music mix process. *Journal on the art of record production*, Issue 11,
<https://www.arpjournal.com/asarpwp/mixing-as-a-performance-creative-approaches-to-the-popular-music-mix-process/>
- Attali, J. (1985). *Noise - The political economy of music*. Minneapolis: University of Minnesota
- Aubin-Auger, I., Mercier, A., Baumann, L., Lehr-Drylewicz, A.M, Imbert, P., & Letrilliart, L.

- (2008). Introduction à la recherche qualitative [Introduction to qualitative research].
Exercer, 19(84), 142-145.
- Augoyard, J. (2007/1979). Step by step. (Tr. D.A. Curtis). (originally published in French as *Pas à pas. Essai sur le cheminement quotidien en milieu urbain* by Éditions du Seuil in 1979 as part of the Espacements series edited by Françoise Choay. Copyright 1979 Éditions du Seuil.) Minneapolis & London: University of Minneapolis Press.
- Augoyard, J. and Torgue, H. (Eds.) (Tr. Andra McCartney and David Paquette) (2005/1995).
Sonic experience – A guide to everyday sounds. Montreal & Kingston: McGill-Queen's
University Press.
- Balkin, A. (1990). What Is Creativity? What Is It Not? *Music Educators Journal* 76, no. 9, 29–
32.
- Bamberger, J. (1972). Developing a musical ear: A new experiment. Massachusetts Institute of
Technology, Artificial Intelligence Laboratory, Memo No. 264.
- Bamberger, J. (1991). The mind behind the musical ear – How children develop musical
intelligence. Cambridge, MA: Harvard University Press.
- Bamberger, J. (2013). Discovering the musical mind: A view of creativity as learning. Oxford
University Press.
- Barrett, M. (Ed.) (2014). Collaborative creative thought and practice in music. Cambridge, UK:
Ashgate.
- Behrendt, F. (2018). Soundwalking. In (ed. M. Bull) *The Routledge Companion to Sound
Studies*. London & New York: Routledge.
- bell, adam patrick. (2018). Dawn of the DAW: The Studio As Musical Instrument. Oxford
University Press.

- bell, adam patrick. (Ed.). (2020). *The Music Technology Cookbook: Ready-Made Recipes for the Classroom*. Oxford University Press.
- bell, adam patrick. (2018). *Dawn of the DAW: The Studio As Musical Instrument*. Oxford University Press.
- bell, adam patrick. (Ed.). (2020). *The Music Technology Cookbook: Ready-Made Recipes for the Classroom*. Oxford University Press.
- Benedict, C. & Schmidt, P. (2014). Educating teachers for 21st-century challenges – The music educator as cultural citizen, In M. Kaschub & J. Smith (Eds.), *Promising Practices in 21st Century Music Teacher Education* (79-103). Oxford University Press.
- Benedict, C., Schmidt, P., Spruce, G. & Woodford, P. (2015) Eds. *The Oxford Handbook of Social Justice in Music Education*. Oxford University Press.
- Benedict, C. (2017). Setting-right the world: Epistemological spaces of wondering and wandering. In “Pedagogical encounters in music: Thinking with Hannah Arendt”. (Almqvist, C., Benedict, C., & Kanellopoulos, P.). *European Journal of Philosophy in Arts Education*, 1(2), 14-22.
- Bernhard, H. C. (2007). A survey of burnout among college music majors. *College Student Journal*, 40(2).
- Black, A.M. & Bohlman, A.F. (2017). Resounding the campus: Pedagogy, race and the environment, *Journal of Music History Pedagogy*, 8(1), pp. 6-27.
- Blacking, J. (1973). *How musical is man?* Faber and Faber.
- Blessner, B., & Salter, L. R. (2006). *Places speak, are you listening? Experiencing aural architecture*. Cambridge, MA: MIT Press.
- Bradley, D. (2006). Global song, global citizens? Multicultural choral music education and the

- community youth choir – Constituting the multicultural human subject. Unpublished Dissertation, Ontario Institute for Studies in Education of the University of Toronto.
- Bradley, D. & Hess, J. (2021). *Trauma and resilience in music education: Haunted melodies*. Routledge.
- Brown, D., & Tandom, R. (1978). Interviews as catalysts. *Journal of Applied Psychology*, 63(2), 197-205.
- Bull, M. (2000). *Sounding out the city: Personal stereos and the management of everyday life*. Bloomsbury.
- Bull, M. (2007). *Sound moves: iPod culture and urban experience*. Routledge.
- Butler, T. (2006). A walk of art – The potential of the sound walk as practice in cultural geography. *Social & Cultural Geography*, 7(6), 889-908.
doi:10.1080/14649360601055821
- Bylica, K. (2020a). *Critical Border Crossing: Exploring Positionalities Through Soundscape Composition and Critical Reflection*. Dissertation [Doctoral dissertation, The University of Western Ontario]. <https://ir.lib.uwo.ca/etd/7000/>
- Bylica (2020b) Hearing my world: negotiating borders, porosity, and relationality through cultural production in middle school music classes, *Music Education Research*, 22:3, 331-345, DOI: 10.1080/14613808.2020.1759519
- Cage, J. (1973). *Silence - Lectures and writings by John Cage*. Hanover, NH: Wesleyan University.
- Capous-Desyllas, M. & Morgaine, K. (2018). *Creating social change through creativity: Anti-Oppressive arts-based research methodologies*. Cham, Switzerland: Springer International.

- Casey, E. (1996). How to get from space to place in a fairly short stretch of time. In S. Feld and K. Basso (Eds.). *Senses of Place*, (13-52). School of American Research Press.
- Castoriadis, C. (2005/1975). *The Imaginary Institution of Society*. Polity Press.
- Castronova, E. (2018). Words as experiment. In Mark W. (Eds.). *The Routledge companion to imaginary worlds* (p. 298-304). Routledge.
- Ceraso, S. (2018). *Sounding composition: Multimodal pedagogies for embodied listening*. University of Pittsburgh Press.
- Christensen, J. (2018). *Sound and the aesthetics of play – A musical ontology of constructed emotions*. Cham, Switzerland: Palgrave Macmillan.
- Clarke, E. (2005). *Ways of listening: An ecological approach to the perception of musical meaning*. Oxford University Press.
- Collins, D. (Ed). (2012). *The act of musical composition: Studies in the creative process*. Routledge.
- Coté, M., Day, R., & de Peuter, G. (2007). Utopian Pedagogy: Creating Radical Alternatives in the Neoliberal Age. *The Review of Education, Pedagogy, and Cultural Studies*, 29:317–336
- Cox, C. (2017). Sonic thought. In B. Herzogenrath (Ed.). *Sonic thinking: A mediaphilosophical approach* (pp. 99-109). New York, NY: Bloomsbury Academic.
- Cox, C. (2018). *Sonic flux – Sound, art, and metaphysics*. Chicago and London: The University of Chicago Press.
- Cropley, D., Cropley, A., Kaufman, J., & Runco, M. (2010). (eds.) *The dark side of creativity*. Edinburgh: Cambridge University Press.
- Daughtry, J. (2015). *Listening to war: Sound, music, trauma, and survival in wartime Iraq*.

Oxford University Press.

- Daza, S., & Gershon, W. S. (2015). Beyond ocular horizons: Sound, silence and sonification as inquiry. [Special Issue: 20th Anniversary]. *Qualitative Inquiry*, 21(7), 639–644.
- Deaville, J. (2023). The sounds and silence of COVID-19 quarantine: Media representation, debility, and neoliberal biopolitics. In M. Agamennone, D. Palma, D & G. Sarno, G. (Eds.). *Sounds of the pandemic: Accounts, experiences, perspectives in times of COVID-19*. (249-262) Routledge.
- Deaville J, Lemire C. Latent (2021). Cultural Bias in Soundtracks of Western News Coverage From Early COVID-19 Epicenters. *Front Psychol*. 12:686738. doi: 10.3389/fpsyg.2021.686738
- Debord, G. (1994). *The Society of the Spectacle*, New York: Zone.
- Degen, M.M. and Rose, G. (2012) The sensory experience of urban design: The role of walking and perceptual memory. *Urban Studies* 49(15): 3271–3287.
- DeLaurenti, C. (2007). *Favorite Intermissions: Music Before and Between Between, Stravinsky, Holst*. CD. <https://del Laurenti.net/favorite/>
- Deleuze, G. & Guattari, F. (1987) *A Thousand Plateaus* Minneapolis: University of Minnesota Press
- Demirbatır, R.E. (2012). Undergraduate Music Student's Depression, Anxiety and Stress Levels: A Study from Turkey. *Procedia - Social and Behavioral Sciences*, 46, 2995-2999.
- DeRobertis, E. (2017). *The phenomenology of learning and becoming: Enthusiasm, creativity, and self-development*. New York, NY: Palgrave Macmillan.
- De Souza, J. (2017). *Music at hand: Instruments, bodies and cognition*. Oxford University Press.
- Dews, C. L. B., & Williams, M. S. (1989). Student musicians' personality styles, stresses, and

- coping patterns. *Psychology of Music*, 17, 37–47.
- Dhillon, K. K., Dillon, S. R., & Meloche, E. S. (2021). Transformative Education: Finding Voice Through Body and Space. *Academia Letters*. <https://doi.org/10.20935/AL2934>
- Dilshad, R. & Latif, M. (2013). Focus group interview as a tool for qualitative research – An analysis. *Pakistan Journal of Social Sciences*, 33(1) 191-198,
<https://pdfs.semanticscholar.org/e13a/0f7a5a455c31454df3d8d99e92097a10a947.pdf>
- Divine, R. (1993). *The Sputnik challenge: Eisenhower’s response to the Soviet satellite*. Oxford University Press.
- Droumeva, M. & Jordan, R. (2019). *Sound, media, ecology*. Cham, Switzerland: Palgrave Macmillan
- Dunn, R.E. (1997). Creative thinking and music listening. *Research Studies in Music Education*, 8 (3-22)
- Dunn, R.E. (2006). Teaching for lifelong, intuitive listening. *Arts Education Policy Review*, 107(3), 33-40.
- Dyson, F. (2014). *The tone of our times: Sound, sense, economy, and ecology*. MIT.
- Edgar, S. (2011) A Review of “Music Education at a Crossroads: Realizing the Goal of Music for All”, *Arts Education Policy Review*, 112:1, 48-54, DOI: 10.1080/10632913.2011.518129
- Eidsheim, N. (2015). *Sensing sound: Singing and listening as vibrational practice*. Durham & London: Duke University Press.
- Eneix, L. (Ed.). (2014). *Archaeoacoustics: The archaeology of sound*. Publication of the proceedings from the 2014 conference in Malta. OTS Foundation
- Elharake, J.A., Akbar, F., Malik, A.A. *et al.* Mental Health Impact of COVID-19 among

- Children and College Students: A Systematic Review. *Child Psychiatry Hum Dev* (2022).
<https://doi.org/10.1007/s10578-021-01297-1>
- Elliott, D. (1995). *Music matters: A new philosophy of music education*. Oxford University Press.
- Elpus, K., & Abril, C. R. (2011). High School Music Ensemble Students in the United States: A Demographic Profile. *Journal of Research in Music Education*, 59(2), 128–145.
- Eros, J. (2014) “Collecting and analyzing focus group data”, in (Ed. C. Conway) *The Oxford Handbook of Qualitative Research in American Music Education*, (271-287), Oxford University Press.
- Feld, S., & Basso, K. H. (Eds.). (1996). *Senses of place*. Santa Fe, NH: School of American Research Press.
- Finney, J., Philpott, C. & Spruce, G. (Eds.) (2021). *Creative and critical projects in classroom music: Fifty years of sound and silence*. Routledge.
- Frank, T. (1997). *The conquest of cool – Business culture, counterculture, and the rise of hip consumerism*. Chicago and London: The University of Chicago Press.
- Freeman, M. (2011) Validity in dialogic encounters with hermeneutic truths. *Qualitative Inquiry* 17(6): 543–551
- Freire, P. (2005/1970). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). Continuum.
- Freire, P. (2005/1974). *Education for critical Consciousness*. Continuum.
- Friesen, D. (2014). Riffs as method. *Canadian Music Educator*, 55(3), 8-9.
- Frontline (2001). *The merchants of cool*. <https://www.pbs.org/video/frontline-merchants-cool/>
- Gallagher, M. (2011). Sound, space and power in a primary school. *Social & Cultural Geography*, 12(1), 47–61. <https://doi.org/10.1080/14649365.2011.542481>

- Gardner, H. (1993). *Creating minds: An anatomy of creativity seen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi*. Basic Books.
- Gaztambide-Fernández, R. (2007). Inner, outer, and in-between: Why popular and matter arts matter for inner city youth. *Orbit* 36(3), 35-37.
- Gaztambide-Fernández, R. (2011). “Musicking in the city – Reconceptualizing urban music education as a cultural practice.” (Guest ed. Patrick Schmidt) *Action*,
- Gay, G. (2010). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Gershon, W.S. (2020). Policing normalcy – Men of color speak back at a ridiculously white institution. *Cultural Studies ↔ Critical Methodologies*, 20(1), 52-62, DOI: 10.1177/1532708619884969
- Gershon, W.S. (2018). *Sound curriculum: Sonic studies in educational theory, method and practice*. Routledge.
- Gershon, W.S., & Appelbaum, P. (2020). *Sonic studies in educational foundations – Echoes, reverberations, silences, noise*. New York & London: Routledge.
- Giddings, S. (2022). *Technology for unleashing creativity: Practical tips and tools for music educators*.
- Giroux, H. (2015). *Education and the crisis of public values: Challenging the assault on teachers, students, and public education*. 2nd Edition. Peter Lang Publishers.
- Goehr, L. (1992). *The imaginary museum of musical works: An essay in the philosophy of music*. Oxford University Press.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-607. <https://nsuworks.nova.edu/tqr/vol8/iss4/6>

- Goodman, S. (2010). *Sonic warfare: Sound, affect, and the ecology of fear*. MIT Press.
- González Ben, A. (2022). *Unmuted: The racial politics of silent classrooms*. [Manuscript submitted for publication]. Faculty of Music, University of Toronto.
- Gover AR, Harper SB, Langton L. (2020). Anti-Asian Hate Crime During the COVID-19 Pandemic: Exploring the Reproduction of Inequality. *Am J Crim Justice*. 2020;45(4):647-667
- Green, L. (2008/1998). *Music, informal learning and the school: A new classroom pedagogy*. Aldershot, UK: Ashgate.
- Greene, M. (1995). *Releasing the imagination – Essays on education, the arts, and social change*. San Francisco: Jossey-Bass.
- Greene, M. (2001). *Variations on a blue guitar – The Lincoln Center Institute Lectures on Aesthetic Education*. Teachers College, Columbia University.
- Greher, G. & Burton, S. (Eds.). (2021). *Creative music making at your fingertips: A mobile technology guide for music educators*. Oxford.
- Grbich, C. (2013). *Qualitative data analysis: An introduction*. Sage.
- Guba, E., & Lincoln, Y. (1981). *Effective evaluation*. San Francisco: Jossey-Bass.
- Guilford, J.P. (1950) Creativity. *American Psychologist*, 5, 444
<http://dx.doi.org/10.1037/h0063487>
- Gutierrez, A., Long, N., & Leonardson, E. (2017). How do soundwalks engage urban communities in soundscape awareness? Conference Proceedings from *Invisible Places*,
- Haiven, M. (2014). *Crisis of imagination, crisis of power – capitalism, creativity and the commons*. Halifax & Winnipeg: Fernwood.
- Haiven, M. and Khasnabish, A. (2014). *The radical imagination – Social movement research in*

- the age of austerity. Halifax & Winnipeg: Fernwood.
- Hartley, J. (2005). (Ed.). *Creative industries*. Wiley-Blackwell.
- Hayashi, P., Abib, G., & Hoppen, N. (2019). Validity in qualitative research – A Processual approach. *The Qualitative Report*, 24(1), 98-112.
<https://nsuworks.nova.edu/tqr/vol24/iss1/8>.
- Heble, A. (2000). *Landing on the Wrong Note: Jazz, Dissonance, and Critical Practice*. Routledge.
- Heble, A. & Laver, M. (Eds.). (2016) Introduction: Improvisation and Music Education Beyond the Classroom. In (ed. A. Heble and M Laver) *Improvisation and Music Education Beyond the Classroom* (1-15). New York, NY: Routledge.
- Heidegger, M. 1998 [1927]. *Being and time*, trans. J. Macquarrie and E. Robinson. Oxford: Blackwells.
- Hendy, D. (2013). *Noise: A human history of sound and listening*. New York, NY: Harper Collins.
- Herbert, R., & Dibben, N. (2018). Making sense of music: Meanings 10- to 18-year-olds attach to experimenter-selected musical materials. *Psychology of Music*, 46(3), 375–391
- Hickey, M. (2012). *Music outside the lines – Ideas for composing in K-12 classrooms*. Oxford University Press.
- Hill, S. (2018). A “sound” approach - John Cage and music education. *Philosophy of Music Education Review*, 26(1), 46-62.
- hooks, bell. 1994. *Teaching to Transgress. Education as the Practice of Freedom*. New York: Routledge.
- Hourigan, R. & Edgar, S. (2014). Phenomenological research in music education. in (C.

- Conway, Ed.). *The Oxford Handbook of Qualitative Research in American Music Education*, (148-162). Oxford University Press.
- Howes, D. (2003). *Sensual relations: Engaging the senses in culture and social theory*. The University of Michigan Press.
- Howes, D. (2005). *The Empire of the Senses: The Sensual Culture Reader*. Oxford University Press.
- Hunt, J. H., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, 46, 3–10.
- Ingold, T. (2000). *The perception of the environment*. Routledge.
- Ingold, T. (2008). Bindings against boundaries: Entanglements of life in an open world. *Environment and Planning A*, 40, 1796-1810.
- Isbell, D. (2008) Musicians and teachers – The socialization and occupational identity of preservice music teachers. *Journal of Research in Music Education*, 56(2), 162-178.
- Jabush, H-C., & Altenmüller, E. (2004). Anxiety as an aggravating factor during onset of focal dystonia in musicians. *Medical Problems of Performing Artists*, 19, 75–81.
- James, R. (2019). *The sonic episteme – Acoustic resonance, neoliberalism, and biopolitics*. Durham & London: Duke University Press.
- Jipson, J. & Paley, N. (1997). *Daredevil research: Recreating Analytic Practice*. Peter Lang.
- Johanningmeier, E.V. (2010). “A Nation at Risk” and “Sputnik”: Compared and Reconsidered. *American Educational History Journal*, 37(2), 347-365.
- Jorgensen, E. (1997). *In search of music education*. University of Illinois Press.
- Kanellopoulos, P. & Wright, R. (2012). *Improvisation as an Informal Learning Process: Implications for Teacher Education*. In (S. Karlsen & L. Väkevä, Eds.). *Future Prospects*

- for Music Education: Corroborating Informal Learning Pedagogy*, (129–57). Cambridge Scholars.
- Kaschub, M. & Smith, J.P. (2009). Minds on music – Composition for creative and critical thinking. MENC: The National Association for Music Education.
- Kaschub, M. & Smith, J. (2021). With “App” attention: Developing musical capacities in digital environments. In Greher, G. & Burton, S. (Eds.). *Creative music making at your fingertips: A mobile technology guide for music educators* (pp. 67-80). Oxford.
- Kalin, N. M. (2016). We’re All Creatives Now: Democratized Creativity and Education. *Journal of the Canadian Association for Curriculum Studies*, 13(2), 32–44. Retrieved from <https://jcacs.journals.yorku.ca/index.php/jcacs/article/view/40280>
- Kanellopoulos, P. & Wright, R. (2012). Improvisation as an Informal Learning Process: Implications for Teacher Education. In (S. Karlsen & L. Väkevä, Eds.). *Future Prospects for Music Education: Corroborating Informal Learning Pedagogy*, (129–57). Cambridge Scholars.
- Kaufman, J. & Sternberg, R. (Eds.). (2010). *The Cambridge handbook of creativity*. Cambridge University Press.
- Kerchner, J. (2014). *Music across the senses: Listening, learning, and making meaning*. Oxford University Press.
- Kheshti, R. (2015). *Modernity’s ear: Listening to race and gender in world music*. New York University Press.
- Kincheloe, J. L., & McLaren, P. L. (2000). Rethinking critical theory and qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* 2nd Ed. (279-314). Thousand Oaks, CA: Sage Publications, Inc.

- Kladder, J. (2021). Digital audio technology in music teaching and learning: A preliminary investigation', *Journal of Music, Technology & Education*, 13:2 & 3, pp. 219–37, https://doi.org/10.1386/jmte_00024_1
- Kolar, M. (2018). Archaeoacoustics: Re-Sounding material culture. *Acoustical Society of America*, Winter (28-37).
- Kossak, M. (2013). Art-based enquiry: It is what we do, In S. McNiff (Ed.). *Art as Research – Opportunities and Challenges*, (19-28). Intellect.
- Krause, B. (2012). *The great animal orchestra: Finding the origins of music in the world's wildest places*. Little Brown and Company.
- LaBelle, B. (2010). *Acoustic territories: Sound culture and everyday life*. New York & London: Continuum.
- LaBelle, B. (2020). *Sonic agency: Sound and emergent forms of resistance*. MIT Press.
- Lacey, J., Harvey, L., Moore, S., Qiu, X., Pink, S., Sumartojo, S., Zhao, S., & Maisch, S. (2017). Soundscape Design of Motorway Parkland Environments – Transformation, Cancellation, and Ethnography. In *Invisible Places: Sound, Urbanism and Sense of Place, Proceedings* (pp. 52-63). University of Acores.
- Ladson-Billings, G. (1995). Toward a Theory of Culturally Relevant Pedagogy. *American Educational Research Journal*, 32(3), 465–491.
- Laitz, S.G. (2012). *The complete musician: An integrated approach to tonal theory, analysis, and listening*. (3rd. ed.). New York, NY: Oxford University Press.
- Lantz B, Wenger M. (2023). Anti-Asian Xenophobia, Hate Crime Victimization, and Fear of Victimization During the COVID-19 Pandemic. *J Interpers Violence*. 2023 Jan;38(1-2)
- Lather, P. (1986a). Research as praxis. *Harvard Educational Review*, 56(3), 257- 276.

- Lather, P. (1986b). Issues of validity in openly ideological research – Between a rock and a soft place. *Interchange*, 17(4), 63-84. The Ontario Institute for Studies in Education.
- Lather, P. (1993). Fertile obsession – Validity after poststructuralism. *The Sociological Quarterly*, 34(4), 673-693.
- Latta, M.M. (2013). *Curricular conversations: Play is the (missing) thing*. Routledge.
- LeBreton, D. (2017/2006). *Sensing the world: The anthropology of the senses* (Translated by C. Ruschensky). London: Bloomsbury Academic.
- Lefebvre, H. (2004). (Tr. S. Elden & G. Moore). *Rhythmanalysis: Space, time and everyday life*. Continuum.
- Lehmann, A., Sloboda, J., and Woody, R. (2007). *Psychology for musicians – Understanding and acquiring the skills*. Oxford University Press.
- Lincoln, Y. S., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Linn, S. (2008). *The case for make believe - Saving play in a commercialized world*. The New Press.
- Lorraine, T. (2005). “Lines of flight,” in *The Deleuze dictionary*, ed. A. Parr. Edinburgh: Edinburgh University Press.
- Losiak, R., Tańczuk, R., Wiczorek, S. (2023). Listening to the first lockdown: The auditory experience of Wrocław’s inhabitants. In Maurizio A., Daniele P., Giulia, S. (Eds.). *Sounds of the pandemic: Accounts, experiences, perspectives in times of COVID- 19* (pp. 15-29). Routledge.
- Lusted, D. (1986). Why pedagogy? *Screen*, 27(5), 2-16.
- Manzo, V. (2016). *Foundations of music technology*. Oxford University Press.
- Mash, D. (2005), ‘Technology in music education: An overview’, in T. E. Rudolph (ed.),

- Technology Strategies for Music Education, Milwaukee, WI: Hal Leonard Corporation,*
pp. 1–2.
- Massey, D. (2005). *For space*. Sage.
- McCartney, A. (2010). Soundwalking and improvisation. <http://www.improvcommunity.ca/>
- McCartney, A. (2014). Soundwalking – Creating moving environmental sound narratives. In
(Eds. S. Gopinath and J. Stanyek) *The Oxford Handbook of Mobile Music Studies*,
Volume 2. (212-237).
- McDowell, Linda. 1999. “In Public: The Streets and Spaces of Pleasure.” In *Gender, Identity
and Place: Understanding Feminist Geographies*, 148–69. Minneapolis: University of
Minnesota Press.
- McLaren, R. B. (1993). The dark side of creativity. *Creativity Research Journal*, 6, 137–144.
- McRae, C. (2009). Becoming a bass player: Embodiment in music performance. In B.L. Bartleet
& C. Ellis (Eds). *Music autoethnographies: Making autoethnography sing/making music
personal* (pp. 136-150). Bowen Hills, Qld: Australian Academic Press.
- McRae, C. (2021). *Listening for learning: Performing a pedagogy of sound and listening*. Peter
Lang.
- McRae, C. & Nainby, K. (2020) (Re)sounding pedagogy: a themed issue on critical
communication pedagogies of/for/in sound, *Review of Communication*, 20:4, 287-297.
- Merleau-Ponty, M. (1962). *Phenomenology of Perception* (C. Smith, Trans.). Routledge.
- Merleau-Ponty, M. 1964 [1947]. *Primacy of perception: And other essays on
phenomenological psychology, the philosophy of art, history and politics*, trans. J.
Eddie. Evanston, IL: Northwestern University Press.
- Merriam, S. & Tisdell, E.. (2016). *Qualitative research: A guide to design and implementation*.

- Jossey-Bass.
- Meyer-Denkman, G. (1977). Experiments in sound – New directions in musical education for young children. (Adapted and used in English schools by Elizabeth and John Paynter). London: Universal Edition.
- Mieczkowski, Y. (2013). Eisenhower’s Sputnik moment: The race for space and world prestige. Cornell University Press.
- Miksza, P., Parkes, K., Russell, J. A., & Bauer, W. (2022). The well-being of music educators during the pandemic Spring of 2020. *Psychology of Music*, 50(4), 1152–1168.
<https://doi.org/10.1177/03057356211042086>
- Miller, P. (2004). Rhythm science. Cambridge, MA: The MIT Press.
- Miller, P. (2008) Ed. Sound Unbound – Sampling digital music and culture. Cambridge & London: MIT Press.
- Mithen, S. (2003). After the ice – A global human history 20,000-5000 BC. Boston, MA: Harvard University Press.
- Moon, K. & Humphreys, J. (2010). The Manhattanville music curriculum program: 1966-1970. *Journal of Historic Research in Music Education*, 31(2): 75-98.
<http://dx.doi.org/10.2307/20789865>
- Moore, J. (1990). Strategies for Fostering Creative Thinking, *Music Educators Journal* 76, no. 9 (38–42.)
- Muhonen, S. (2010). Creativity - A slippery slogan? In I. Rikandi (Ed). *Mapping the common ground* (pp. 86-103). BTJ Finland Sibelius Academy, Department of Music Education.
- Nelson, C. (2018). Beyond Prometheus: Creativity, discourse, ideology, and the anthropocene. *Knowledge Cultures*, 6(2), 111-131.

- Niknafs, N. (2013). Free Improvisation: What It Is, and Why We Should Apply It in Our General Music Classrooms. *General Music Today*, 27(1), 29–34.
<https://doi.org/10.1177/1048371313482921>
- Nzewi, Meki. (2005). African musical arts creativity and performance: The science of the sound. *Nigerian Music Review*, Vol. 6 pp. 1-8, DOI: [10.4314/nmr.v6i1.35370](https://doi.org/10.4314/nmr.v6i1.35370)
- Nzewi, Meki (2006). “African Music Creativity and Performance: The Science of the Sound”. *Voices: A World Forum for Music Therapy*.
<http://www.voices.no/mainissues/mi40006000199.html>
- Nzewi, Meki (2013). Cultural musical arts interaction: The other is a dialect of me. *Nuskka Journal of Musical Arts*, (1-11).
<https://www.unn.edu.ng/publications/files/images/Nsukka%20Journal%20Vol%202%20Last%20and%20Final%202013.pdf>
- Nzewi, M. & Nzewi, O. (2007) A contemporary study of musical arts informed by African indigenous knowledge systems (Vol. 1 of 4). Centre for Indigenous Instrumental African Music and Dance (Ciimda).
- Niknafs, N. (2013). Free Improvisation: What It Is, and Why We Should Apply It in Our General Music Classrooms. *General Music Today*, 27(1), 29–34.
<https://doi.org/10.1177/1048371313482921>
- O’Callaghan, C. (2007). *Sounds – A philosophical theory*. London, UK: Oxford University Press.
- O’Callaghan, C. (2017). *Beyond Vision – Philosophical essays*. London, UK: Oxford University Press.
- Odland, B., & Auinger, S. (2009). Reflections on the sonic commons. *Leonardo Music Journal*,

19, 63-68.

- Odriozola-González, P., Planchuelo-Gómez, Á., Jesús Irurtia, M., & Rodrigo de Luis-García, R. (2020). Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university, *Psychiatry Research*, Volume 290,113108, ISSN 0165-1781, <https://doi.org/10.1016/j.psychres.2020.113108>
- Okely, J. (1994). Vicarious and sensory knowledge of chronology and change: Ageing in rural France, in K. Hastrup and P. Hervik, (eds.) *Social experience and anthropological knowledge* (pp. 34-48). Routledge.
- Oliveros, P. (2005). *Deep listening - A composer's sound practice*. New York, London, and Shanghai: IUniverse, Inc.
- Oliveros, P. (1974) *Sonic Meditations*. Smith publications.
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281-316. Retrieved from <https://nsuworks.nova.edu/tqr/vol12/iss2/9>
- Onwuegbuzie, A. J., & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools*, 13(1), 48-63.
- Orzel, Helen Jane. (2010). *Undergraduate Music Student Stress and Burnout*, Master's Theses. Paper 3887.http://scholarworks.sjsu.edu/etd_theses/3887
- Ouzounian, G. (2014). "Acoustic mapping – Notes from the interface", in (Ed. M. Gandy and BJ Nilsen) *The Acoustic City* (165-174). Berlin: Jovis.
- Paquette, D. & McCartney, A. (2012). Soundwalking and the bodily exploration of places. *Canadian Journal of Communication Corporation*, 37, (135-145).
- Paris, D. (2012). Culturally Sustaining Pedagogy: A Needed Change in Stance, Terminology,

- and Practice. *Educational Researcher*, 41(3), 93–97.
- Parkes, K.A., Russell, J.A. & Bauer, W.I., & Miksza, P. (2021). The well-being and instructional experiences of K-12 music educators: Starting a new school year during a pandemic. <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.701189/full#h9>
- Paynter, J. (1992). *Sound & Structure*. Cambridge University Press.
- Paynter, J. & Aston, P. (1970). *Sound and silence – Classroom projects in creative music*. Cambridge University Press.
- Pink, S. (2005). Dirty laundry: Everyday practice, sensory engagement and the constitution of identity, *Social Anthropology*, 13(3), 275-290.
- Pink, S. (2008). Sense and sustainability: The case of the Slow Food Movement, *Local Environment*, 13(2), 95-106.
- Pink, S. (2009). *Doing sensory ethnography*. London & Thousand Oaks: Sage.
- Pink, S., Fors, V., & Glöss, M. (2019). Automated futures and the mobile present: In-car video ethnographies. *Ethnography*, 20(1), 88-107.
- Pink, S., Hjorth, L., Horst, H., Nettheim, J., & Bell, G. (2018). Digital work and play: Mobile technologies and new ways of feeling at home. *European Journal of Cultural Studies*, 21(1), 26-38.
- Pink, S. (2021). Digital futures anthropology. In H. Geismar, & H. Knox (Eds.), *Digital Anthropology* (2nd ed., pp. 307-324). Routledge
- Pink, S. (2022). Methods for Researching Automated Futures. *Qualitative Inquiry*, 28(7), 747–753
- Piston, W., & Devoto, M. (1978/1941). *Harmony*. (4th ed.). New York, NY: Norton
- Radichchi, A. (2018), “The notion of soundscape in the realm of sensuous urbanism. A historical

- perspective”. In Wilson, A., (ed.), *Listen! Sounds Worlds from Body to Cities*, Cambridge Scholars.
- Randles, C & Smith, G.D. (2012). A first comparison of pre-service music teachers’ identities as creative musicians in the United States and England. *Research Studies in Music Education*, 34(2), 173-187. doi: 10.1177/1321103X12464836
- Randles, C., Webster, P. (2017). Creativity in Music Teaching and Learning. In: *Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship*. Springer, New York, NY.
https://doi.org/10.1007/978-1-4614-6616-1_470-2
- Reason, P., & Rowan, J. (1981). Issues of validity in new paradigm research. In P. Reason & J. Rowan (Eds.), *Human inquiry: A sourcebook of new paradigm research* (pp. 239-262). New York: John Wiley.
- Recharte, M. (2019). De-centering Music: A “sound education”. *Action, Criticism, and Theory for Music Education*. Vol 18 (1): 68–88.
- Regelski, T. (2002). Sound compositions for expanding musicianship education. *Organised Sound*, 7(1), 29-40.
- Reimer, B. (1989). *A philosophy of music education*. (2nd Ed.). Upper Saddle, NJ: Prentice-Hall, Inc. Hall, Inc.
- Reznikoff, I. (2006). The evidence of the use of sound resonance from Palaeolithic to medieval times. In C. Scarre & G. Lawson (Ed.), *Archaeoacoustics*. (77-84). UK: McDonald Institute for Archaeological Research.
- Reznikoff, I (2014). On the sound related to painted caves and rocks. Janne Ikäheimo, Anna-Kaisa Salmi & Tiina Äikäs (eds.): *Sounds Like Theory*. XII Nordic Theoretical Archaeology Group Meeting in Oulu 25.– 28.4.2012. Monographs of the Archaeological

- Society of Finland 2, 101–109.
- Rinsema, R. (2017). Listening in action – Teaching music in the digital age. *SEMPRE Studies in the Psychology of Music*, London & New York: Routledge.
- Rinsema, R. (2018). De-sacralizing the European – Music appreciation (then) and music listening (now). *Music Education Research*, 20(4), 480-489.
- Rinsema, R. (2019). Beyond the aesthetic: the ‘sensory turn’ and models of music listening today. In H. Barlow & D. Rowland (Eds.). *The experience of listening to music: Methodologies, identities, histories*. Milton Keynes: The Open University.
<https://ledbooks.org/proceedings2019/2019/03/01/beyond-the-aesthetic/>
- Roberts, B. (1991). *Musician: A process of labelling*. St. John’s, Nfld., Canada: Memorial University of Newfoundland.
- Roberts, B. (1993). *I, musician: Towards a model of identity construction and maintenance by music education students as musicians*. St. John’s, Nfld., Canada: Memorial University of Newfoundland.
- Robinson, S. (2021). *Architecture is a verb*. Routledge.
- Rodaway, P. (1994). *Sensuous geographies: Body, sense and place*. Routledge.
- Rosa, H. (2017). Dynamic stabilization, the triple A. approach to the good life, and the resonance conception. <https://journals.openedition.org/questionsdecommunication/11026>
- Rosa, H. (2020). *Resonance: sociology of our relationship to the world* (J. Wagner, Trans.). Polity.
- Rosset, M., Bauman, E., & Altenmüller, E. (2021). Studying Music During the Coronavirus Pandemic: Conditions of Studying and Health-Related Challenges. *Front. Psychol.* 12:651393. doi: 10.3389/fpsyg.2021.651393

- Roulston, K. (2014). Conducting and analyzing individual interviews. In Conway, Colleen M. (ed.), *The Oxford Handbook of Qualitative Research in American Music Education* (250-270). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199844272.001.0001>,
- Runco, M. & Albert, R. (2010). Creativity research: A historical view. In J. Kaufman & R. Sternberg (Eds.). *The Cambridge handbook of creativity* (pp. 3-19). Cambridge University Press.
- Rutherford, S. (2014). Is Murray Schafer's creative music education relevant in the 21st century? *Canadian Music Educator* 55(3), 16-20.
- Ruthmann, S. A., and Mantie, R. (Eds) (2017). *The Oxford Handbook of Technology and Music Education*. Oxford University Press.
- Salvador, K. and Kelly-McHale, J. (2017). Music teacher educator perspectives on social justice. *Journal of Research in Music Education*, 65(1), 6-24.
- Salvatori, M.R. (1996) (Ed). *Pedagogy: Disturbing history, 1819-1929*. University of Pittsburgh Press.
- Sartre, J.-P. 2002 [1939]. "Intentionality: A fundamental idea of Husserl's phenomenology," in *The Phenomenology Reader*, eds. D. Moran and T. Mooney. New York, NY: Routledge.
- Sauer, T. (2009). *Notations 21*. Mark Batty Publisher.
- Scarre, C. & Lawson, G. (2006). (Eds.). *Archaeoacoustics*. UK: McDonald Institute for Archaeological Research.
- Serres, M. (2021/1985). *The five senses: A philosophy of mingled bodies* (M. Sankey & P. Cowley, Trans.). Bloomsbury.
- Schafer, R. Murray (1976). *Creative music education - A Handbook for the creative music*

- teacher. New York NY: Schirmer Books
- Schafer, R. M. (1977). *The tuning of the world*. New York: Alfred a. Knopf, Inc.
- Schafer, R.M. (2005/1995). Forward. In J. Augoyard, and H. Torgue. (Eds.) (Tr. Andra McCartney and David Paquette) *Sonic experience – A guide to everyday sounds.* (xi-xvi). Montreal & Kingston: McGill-Queen’s University Press.
- Schmidt, P.K. (2012). What we hear is meaning too: Deconstruction, dialogue, and music. *Philosophy of Music Education Review*, 20(1), 3-24.
- Schmidt, P.K. (2020). *Policy as practice: A guide for music educators*. Oxford University Press.
- Schmidt, P.K. & Edwards, J. (in press). Composition, Policy and the Formation of Agency: Pathways in Teacher Education and K-16 Practice, in M. Kaschub (Ed.). *Oxford handbook of music composition pedagogy*. Oxford University Press.
- Schwartz, H. (2011). *Making noise: From Babel to the Big Bang and beyond*. Zone Books.
- Semidor, Catherine. 2006. “Listening to a City with the Soundwalk Method.” *Acta Acustica United with Acustica* 92 (6): 959–64.
- Serafine, M.L. (1988). *Music as cognition – The development of thought in sound*. Columbia University Press.
- Seremetakis, N. (1994). The memory of the senses, Part II: Still acts, in N. Seremetakis (Ed.). *The senses still – Perception and memory as material culture in modernity*, (23-43). Routledge.
- Seremetakis, N. (2019). Interfaces. In N. Seremetakis (Ed.). *Sensing the everyday – Dialogues from austerity Greece*. (3-13). Routledge.
- Serres, M. (2021/1985). *The five senses: A philosophy of mingled bodies* (M. Sankey & P. Cowley, Trans.). Bloomsbury.

- Shimakawa, K. (2007). "Mind yourself – On soundwalking, race and gender. In (ed. E. Aston & S. Case) *Staging International Feminisms*. (23-36). Palgrave Macmillan.
- Simmel, G. (1997/1907). *Sociology of the senses*, In D. Frisby and M. Featherstone (Eds.). *Simmel on Culture: Selected Writings*. Sage.
- Smith, J. (2014). Spaces for student voices – Composition in schools and issues of social justice. In (ed. J. Barrett & Webster, P.) *The Musical Experience: Rethinking music teaching and learning*, (149-165). Oxford University Press.
- Smith, D. (2018). Smith, David Woodruff, "Phenomenology", *The Stanford Encyclopedia of Philosophy* (Summer 2018).
<https://plato.stanford.edu/archives/sum2018/entries/phenomenology/>
- Smith, T.D. (2014). Using the expressive arts to facilitate group improvisation and individual reflection – Expanding consciousness in music learning for self-development. Unpublished Dissertation. University of Illinois, Urbana-Champaign.
- Sokoli E, Hildebrandt H, Gomez P. Classical Music Students' Pre-performance Anxiety, Catastrophizing, and Bodily Complaints Vary by Age, Gender, and Instrument and Predict Self-Rated Performance Quality. *Front Psychology*.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Staško-Mazur, K. (2015). Soundwalk as a multifaceted practice. *Argument Biannual Philosophical Journal*, 5(2), 439-455).
- Sternbach, D. J. (2008). Stress in the lives of music students. *Music Educators Journal*, 94, 42-48.
- Sterne, J. (2012). *The sound studies reader*. New York, NY: Routledge.
- Stoecker, R. (2005). *Research methods for community change: A project-based*

- approach. Thousand Oaks, CA: Sage Publications.
- Stoller, P. (1997). *Sensuous scholarship*. University of Pennsylvania Press.
- Street, S. (2017). *Sound poetics: Interaction and personal identity*. Palgrave Studies in Sound.
- Sylvanus, E. (2013). Urban noise and aural solipsism in Nigeria: Causes and consequences. *Nusukka Journal of Musical Arts*, (166-176).
<https://www.unn.edu.ng/wp-content/uploads/2015/10/Nsukka-Journal-Vol-2-Prelim-Last-and-Final-2013.pdf>
- Tanggaard, L. (2009). The Research Interview as a Dialogical Context for the Production of Social Life and Personal Narratives. *Qualitative Inquiry*, 15(9), 1498–1515. <https://doi.org/10.1177/1077800409343063>
- Taruskin, R. (1995). A Myth of the Twentieth Century: The Rite of Spring, the tradition of the new, and “The Music itself”, *Modernism/modernity* 2(1), 1-26.
- Taylor, S. & Fernström, M. (2019). Acouscenic listening. In (ed. M. Droumeva & Jordan, R.) *Sound, Media, Ecology*. (243-260). Cham, Switzerland: Palgrave Macmillan.
- Thibeault, M. (2017). Sound studies and music education. *The Journal of Aesthetic Education*, 51(1), pp. 69-83.
- Thomas, R.B. (1970). Manhattanville Music Curriculum Program: Final Report, 19. <https://files.eric.ed.gov/fulltext/ED045865.pdf>
- Thrift, N. (2004). Movement-space: the changing domain of thinking resulting from the development of new kinds of spatial awareness, *Economy and Society*, 33(4), 582-604.
- Tjellesen, L. & Colligan, K. (2013). *Archaeoacoustics: An introduction - A new take on an old science*. Audio Engineering Society.
https://www.academia.edu/11284628/Archaeoacoustics_An_Introduction_-_A_New_Take_on_an_Old_Science

- Tobias, E. (2016). Learning with digital media and technology in hybrid music classroom. In C. Abril & B. Gault (Eds.). *Teaching general music: Approaches, issues, and viewpoints* (pp. 112-140). Oxford University Press.
- Truax, B. (1978). *Handbook for acoustic ecology*. A.R.C Publications.
- Tuan, Y. (1977). *Sense and place: The perspective of experience*. University of Minnesota Press.
- Tuhus-Dubrow, R. (2017). *Personal stereo*. Object Lessons Bloomsbury.
- Ulmer, J. (2017). Writing slow ontology. *Qualitative Inquiry*, 23(3), 201-211.
- Upitis, R. (1992). *Can I play you my song? — The composition and invented notations of children*. Pearson Education.
- Vagle, M.D. (2018). *Crafting phenomenological research*. (2nd ed.). Routledge.
- Vaugeois, L. (2009). Music as a practice of social justice. In E. Gould, J. Countryman, C. Morton, & L. S. Rose (Eds.). *Exploring social justice: How music education might matter* (p. 2-23). Waterloo, ON: CMEA/ACME Books.
- Vandenberg, D. (1971). *Being and education: An essay in existential phenomenology*. Prentice Hall.
- Vandenberghe, R., & Huberman, A. M. (1999). *Understanding and preventing teacher burnout: A sourcebook of international research and practice*. Cambridge College Press.
- van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. State University of New York Press.
- van Manen, M. (2001). *Researching lived experience: Human science for an action sensitive pedagogy*. Althouse Press.
- Varkøy, Ø. & Dyndahl, P. (2022). Do we all have to be “leftists”? A dialogue about antagonism and agonism in music education research. *Nordic Research in Music Education*, 3, 1–20.
- Voegelin, S. (2010). *Listening to noise and silence: Towards a philosophy of sound art*.

Continuum.

Voegelin, S. (2014). *Sonic possible worlds: Hearing the continuum of sound*. Bloomsbury.

Voegelin, S. (2019). *The political possibility of listening: Fragments of listening*. Bloomsbury.

Wagstaff, G. (2002). *Soundwalks. Radio Art Companion*. Toronto, ON: New Adventures in Sound Art.

Wargo, J. M. (2018). Earwitnessing (In)Equity: Tracing the intra-active encounters of ‘being-in resonance- with’ sound and the social contexts of education, *Educational Studies*, 54(4).

Webster, P. (1990). Creativity as Creative Thinking, *Music Educators Journal* 76, no. 9, (22–28).

Webster, P. R. (2016). Creative Thinking in Music, Twenty-Five Years On. *Music Educators Journal*, 102(3), 26–32. <https://doi.org/10.1177/0027432115623841>

Westerkamp, H. (2007/1974). “Soundwalking”. In (ed. A. Carlyle) *Autumn Leaves, Sound and the Environment in Artistic Practice* (Originally published in *Sound Heritage*, III, 4, Victoria, BC). Double Entendre, Paris.

Wei-Lin Huang & Hui Yu (2022) Social support in university music students’ coping with performance anxiety: people, strategies and performance situations, *Music Education Research*, 24:1, 124-135.

Wenger, E. (1990). *Toward a theory of cultural transparency: elements of a discourse of the visible and the invisible*. Doctoral dissertation, Information and Computer Science, University of California, Irvine.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Wolf, M. (Ed.). (2017). *The Routledge companion to imaginary worlds*. Routledge.

- Woodford, P. (2002) The social construction of music teacher identity in undergraduate music education majors. In Richard Colwell and Carol Richardson (Eds.) *The New Handbook of Research on Music Teaching and Learning: A Project of the Music Educators National Conference*. pp. 675-694. Oxford University Press.
- Woodford, P. (2005). Democracy and music education: Liberalism, ethics, and the politics of practice. Indiana University Press.
- Woodford, P. (2012). “Music education and social justice – Towards a radical political history and vision”, In (Eds. Chris Philpott and Gary Spruce) *Debates in music teaching*. (85-101). London and New York: Routledge.
- Woodford, P. (2018). Music education in an age of virtuality and post-truth. London & New York: Routledge.
- Wozolek, B. (2018). In 8100 Again: The sounds of students breaking. *Educational Studies*, 54(4), 367-381.
- Wright, R. (2016/2010). Democracy, social exclusion and music education: Possibilities for change in R. Wright (Ed.), *Sociology and music education*. (263-281). London & New York: Routledge.
- Wright, R. (2015) “Now we're the musicians: Using Bourdieu’s concepts of habitus, capital and field to analyse informal learning in Canadian music education”. in P. Burnard, Y. Hofvander Trulsson and J. Söderman (Eds.) *Bourdieu and the Sociology of Music Education* (79-98). Farnham: Ashgate.
- Wristen, B. G. (2013). Depression and Anxiety in University Music Students. *Update: Applications of Research in Music Education*, 31(2), 20–27.
- Yekini-Ajenifuja, I. (2013). Meaning in the music of the Yoruba people of Africa.

Nusukka Journal of Musical Arts, (144-152).

<https://www.unn.edu.ng/publications/files/images/Nsukka%20Journal%20Vol%202%20Last%20and%20Final%202013.pdf>

Younker, B.A. & Hickey, M. (2007). Examining the profession through the lens of social justice: two music educators' stories and their stark realizations. *Music Education Research*, 9(2), 215-227.

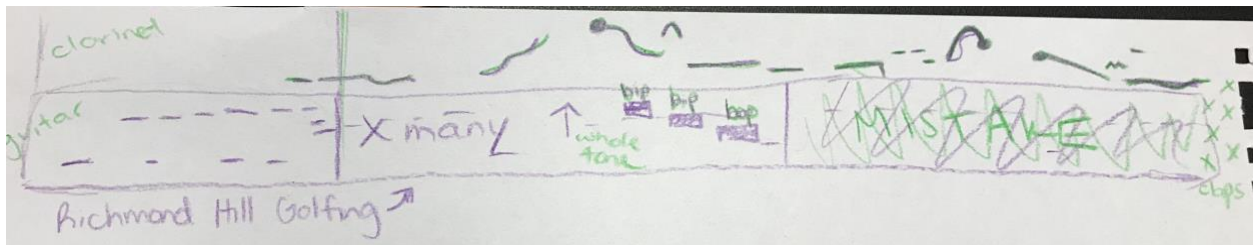
Zubrow, E. & Blake, E. (2006). The origin of music and rhythm. In G. Lawson & C. Scarre (Eds.) *Archaeoacoustics*. (117-126). UK: McDonald Institute for Archaeological Research.

SONIC SCORE VISUALIZATIONS (SSV)

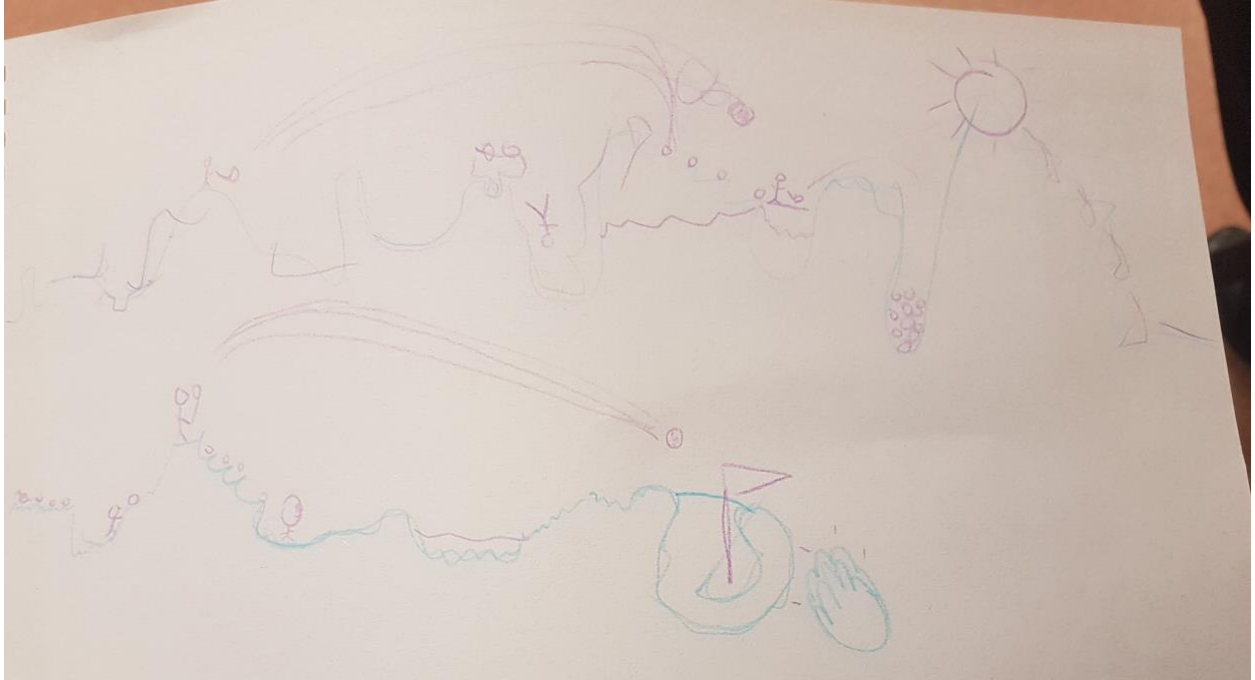
Day At The Course



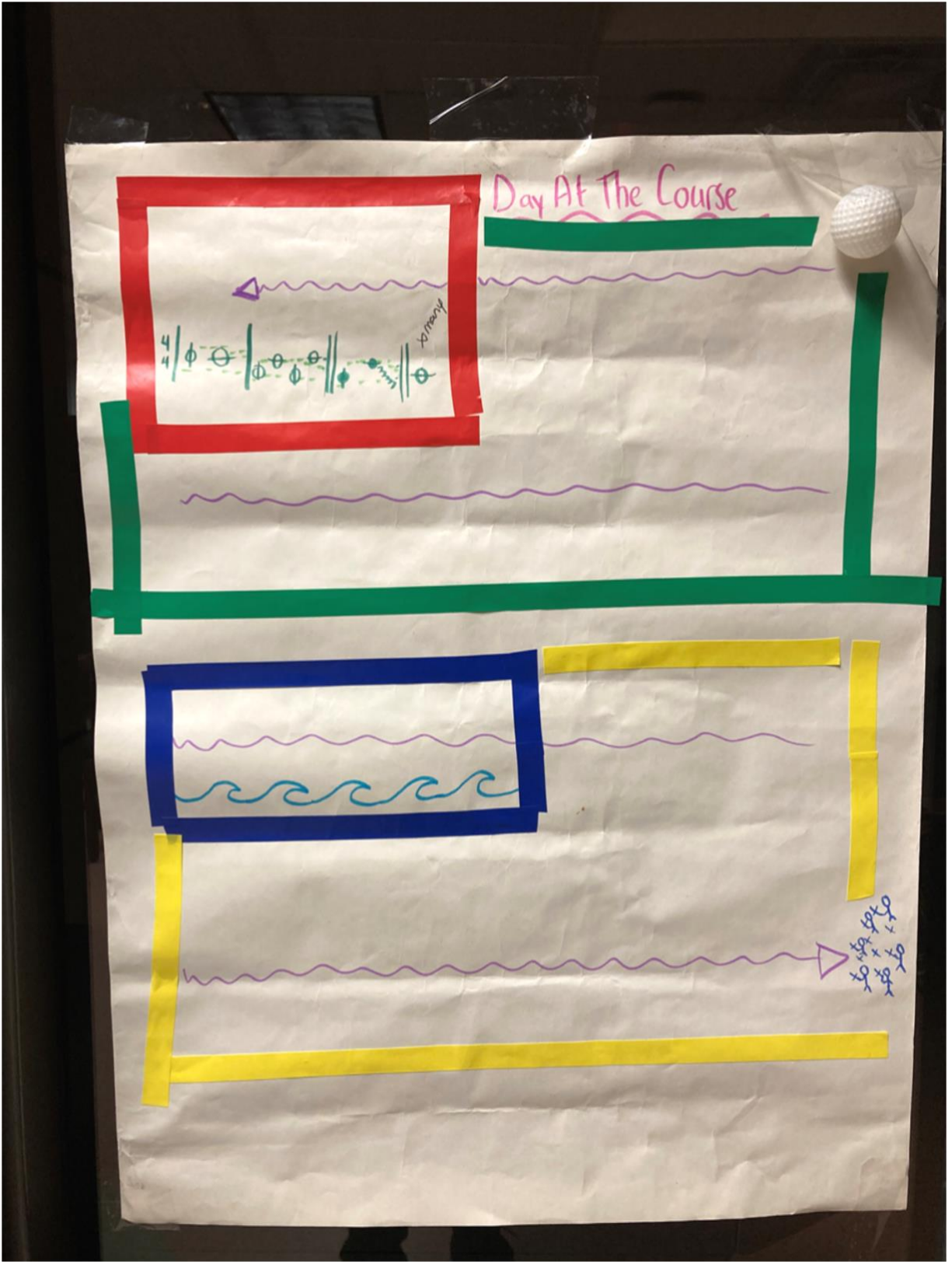
Deana (G2A, SSV)



Sarah (G2A, SSV)

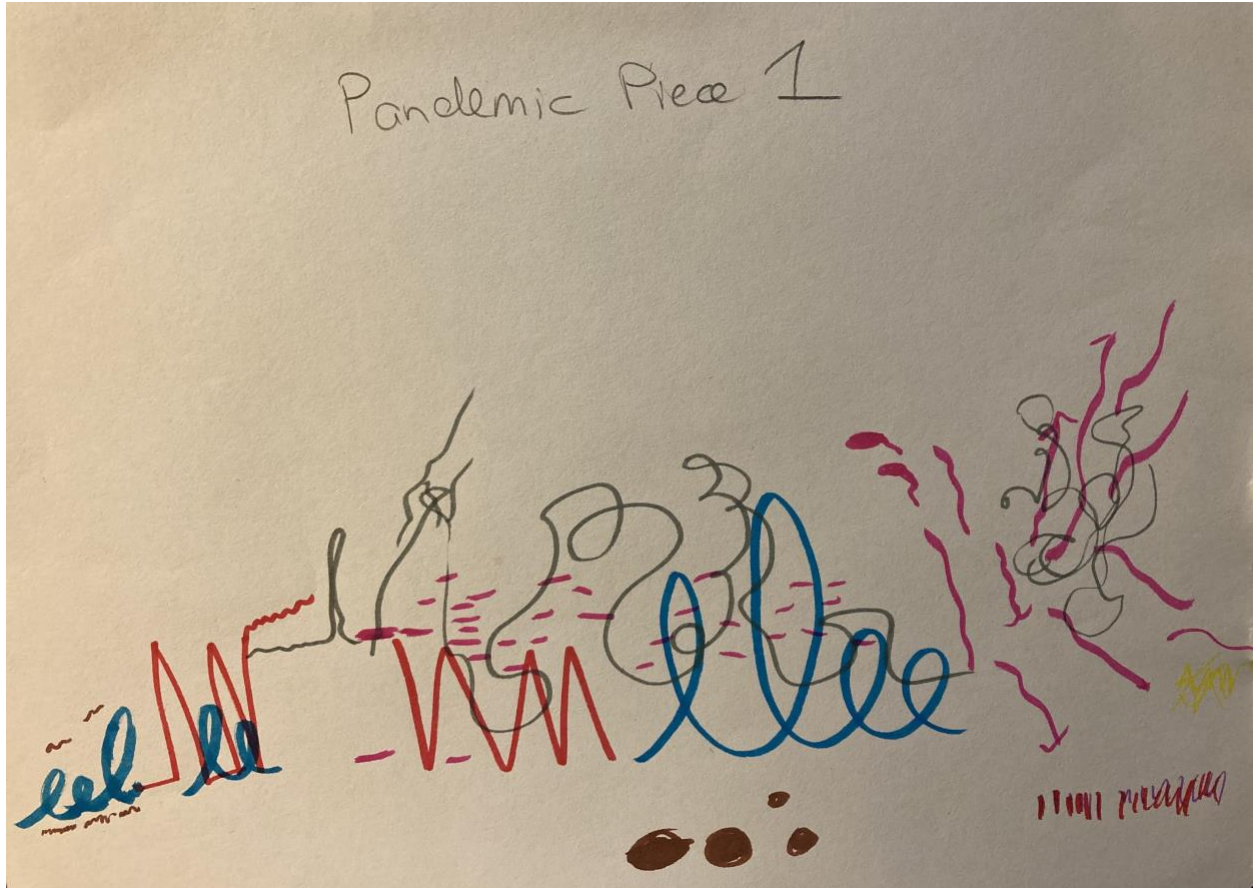


Curtis (G2A, SSV)

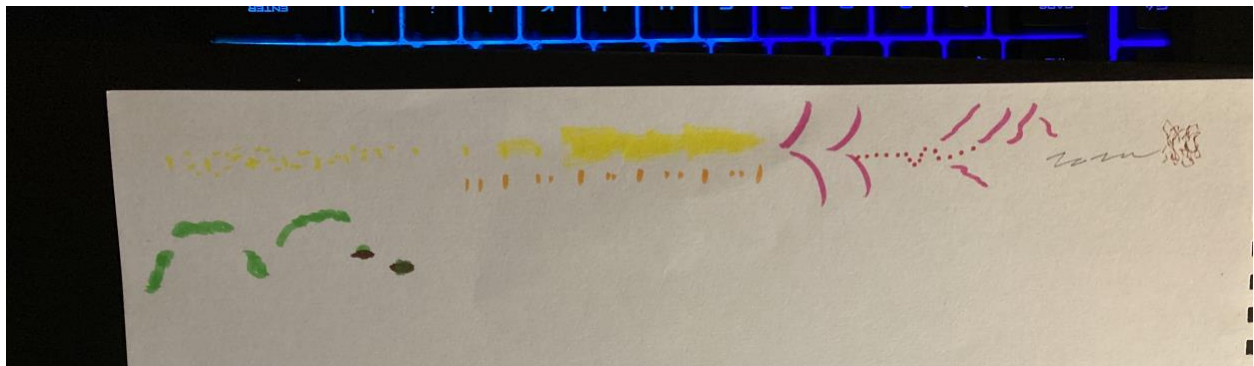


Group SSSV (G2A, SSV)

Pandemic Pieces



Participant 2 (G2B, SSV)



Elon (G2B, SSV)

Appendices

Appendix A: G1 Letter of Information and Consent

Note: All dates and timelines indicated changed as a result of pandemic related school closures.



G1 Letter of Information and Consent

Title of the project: Sound Currents: Exploring Sound's Potential to Catalyze Creative Critical Consciousness in Adolescent Music Students and Undergraduate Music Education Majors

Principal Investigator: Dr. Patrick Schmidt, Professor, Don Wright Faculty of Music

Co-Investigators: Jashen Edwards, PhD Candidate in Music Education

Dear music student,

You are being invited to participate in a new research project being conducted by a researcher at Western University in collaboration with your music teacher. The goal of this study is to better understand how sounds in our everyday experiences can be used to enhance musical education among high school students. You are being invited to participate because you are a student in Mr. _____ class. Mr. _____ has agreed to partner with me as a co-researcher, and we hope this union will yield a rich creative experience for you. This letter will provide you information about the research to help you decide if you'd like to participate in this research. If you have any questions, please contact the researcher, or you can speak with your teacher.

The study is designed with a number of sound-based activities, or methods, asking participants to listen closely and carefully to sounds in their environments, and then to digitally record, upload, critically analyze, and collaboratively improvise, compose, and perform two sound pieces using sounds collected. Most activities are scheduled to take place at school in the music classroom as part of regular music instruction. Some activities are solo ventures, however, and require engagement outside of the regular school schedule. All activities are detailed below.

The research will take place over 2 weeks, and there will be in class activities as well as activities that you will be asked to complete outside of class on your own time. You will be given more detailed instructions and information regarding participation below, but in short, the research will involve your teacher assigning you into groups with other students in your class, engaging in group-based discussions of sounds in your daily lives (which will be audio and video recorded) composing with sound clips, journaling, sharing thoughts and feelings about your process with other participants and the researchers.

The total time commitment for this research will be: ~ 75 minutes per week in class and ~ 30 minutes per week outside of class time. It is important to note that your participation is completely voluntary and will not have any impact on your course grade or your relationship with your teacher.

STUDY TIMELINE and EXPECTATIONS

This study will be conducted between January and February 2022. (It is possible that you will be contacted after May if researchers have questions or would like to clarify something you said or did during the study.) Over the course of ten weeks, you will participate in 10 Sound Session Workshops (SSW) during your regular music class schedule. In the event COVID- 19 limits our capacity to meet in person, all activities will be moved and monitored online via Zoom® in accordance with school board’s safety measure policies. All participants are expected to use their own recording devices (e.g. mobile phones, tablets, Zoom H1, Sony, Olympus, etc.). Most digital recording devices sample at a rate of 44.1 kHz and allow easy transfer and uploads of mp3 or wav files. If you do not own such a device or would like a tutorial on how to use a device, you may reach out to the researchers for assistance. It is possible that a device may be borrowed. However, if physical distancing is in place due to COVID-19 and a device cannot be safely provided or secured for use, then, unfortunately, it is not possible to participate in this study.

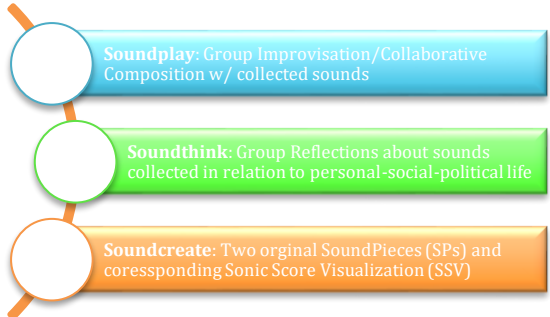
CONSENTING and NON-CONSENTING CRITERION

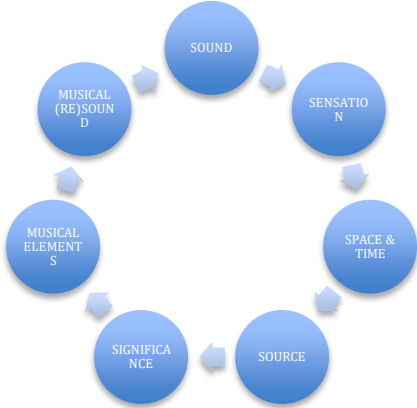
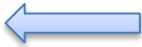
Please know that you are not required to participate in this study just because you are enrolled in the music class. Participation in the study is voluntary and will not negatively affect your grade or your relationship with your teacher. However, participation in the *activities of the study* are curricular in scope and will be integrated into your regular music class lesson plans. Like all class activities and assignments, you will be assessed by the music teacher accordingly. If you choose to not participate in the study, then the researchers will ensure that no information about you is gathered. Your activities and assignments will not be collected for the study. Since this study is group-based, your music teacher will be responsible for assigning pods consisting of four to five students each. Non-consenting students will be placed in a pod together securing their anonymity. Non-consenting students will have the same privileges of instruction and care that consenting students will have. Our intent as researchers is to provide an inclusive and empathetic learning environment for all students, and the activities we have designed are meant to benefit every student enrolled in the music class, whether or not they choose to be participants in our study.

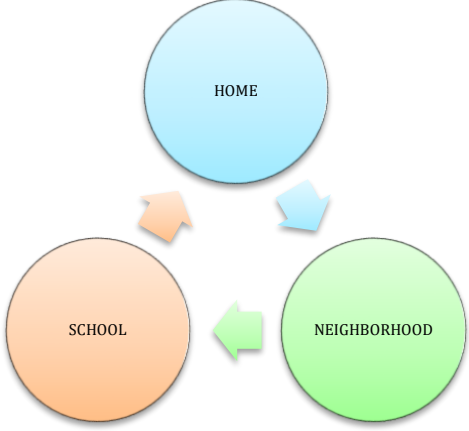
ACTIVITIES and DESCRIPTIONS

Below is a detailed list of activities you are being asked to participate in during the study. Please read through these carefully and feel free to reach out if you have any questions. Before the study begins, I will be visiting your music classroom (in real-time or virtually via Zoom®), providing you with a Keynote slide presentation with the details of the study and its activities as outlined below. Our hope is for you to have an immersive interactive creative critical experience using sounds found in your everyday life. Every activity in this study is designed with that purpose in mind. Therefore, your consent, and your time and commitment to this study is not insignificant

because it is your experiences, ideas, and critiques that will (in)form the basis of our understandings for how and in what ways sound may be a creative critical tool in music education environs. I value the opportunity to work with you and hope you enjoy the sound sessions, and maybe continue to deeply listen to the sounds around you and creatively reengage them in your many musical years ahead.

ACTIVITY	DESCRIPTION												
<p>Sound Session Workshop (SSW)</p>  <table border="1"> <thead> <tr> <th>SEGMENT 1</th> <th>SEGMENT 2</th> <th>SEGMENT 3</th> </tr> </thead> <tbody> <tr> <td>Soundbreakers</td> <td>Sound Improvisation Games</td> <td>Structuring Sounds</td> </tr> <tr> <td>Critical Reflections on Sounds</td> <td>Sounding Stories</td> <td>(Re)structuring Soundstories</td> </tr> <tr> <td>Visualizing Sounds</td> <td>Sound-Sight Improvisation Games</td> <td>Sound Jam</td> </tr> </tbody> </table>	SEGMENT 1	SEGMENT 2	SEGMENT 3	Soundbreakers	Sound Improvisation Games	Structuring Sounds	Critical Reflections on Sounds	Sounding Stories	(Re)structuring Soundstories	Visualizing Sounds	Sound-Sight Improvisation Games	Sound Jam	<p>SSWs are in-class, group-driven, and include improvisation and composition games, critical reflections about sounds collected, and Sound Jams. SSWs are cumulative and culminate with the creation of two original Sound Pieces (SP) using a Digital Audio Workstation (DAW) software program (e.g. Logic Pro, BandLab®). Each SP will also include a corresponding graphic score, or Sonic Score Visualization (SSV), which will be collectively created.</p> <p>SSWs are guided by three principles: soundplay, soundthink, and soundcreate. During SSWs you be participating in 9 areas of thinking and play with sound (see left of table).</p> <p>Central to the breadth and development of the SSWs (and the study in general) are three activities you will be asked to do on your own time, outside of the regular music class schedule. These should take no more than 30 minutes each week during the course of the study. These activities include: (1) recording and uploading ~ 5 to 7 sounds each week to the Sound Collection and Classification (SCC) table, (2) keeping a Sonic Narrative Journal (SNJ) reflecting your experiences during the study, and (3) trekking and charting sounds in three different locations, or Sound Mapping (SM).</p>
SEGMENT 1	SEGMENT 2	SEGMENT 3											
Soundbreakers	Sound Improvisation Games	Structuring Sounds											
Critical Reflections on Sounds	Sounding Stories	(Re)structuring Soundstories											
Visualizing Sounds	Sound-Sight Improvisation Games	Sound Jam											
<p>Sound Collection and Classification (SCC) Table</p>	<p>Once consent is granted, you will be contacted via your school email address a link to Padlet®, an online communal bulletin board. The SCC table is housed in this location. The SCC table is a collaborative space for all study participants (and the researchers). All data entered in the SCC table can be heard and seen by all study participants (and the researchers).</p> <p>The SCC table is a repository for all study participants to draw from for musical inspiration and instrumentation/orchestration creative ideas, as well as a site to prompt critical</p>												

	<p>dialogue about sound and its attributed meanings in participant’s lives.</p> <p>You may view a non-live version of the SCC table by clicking here:</p> <p>https://padlet.com/soundcurrents/5wgqfercwprj1Inv</p> <p>For each sound uploaded you are asked to complete the SCC table as specified in the link above (see SCC Protocols for details).</p> <p>NOTE: Non-consenting students will be linked to an SCC table marked “non-collectable data” (NCD). You may view a non-live version of this SCC table by clicking here:</p> <p>https://padlet.com/soundcurrentz/awbeu1v125r427y7</p>
<p>Sonic Narrative Journal (SNJ)</p> <ul style="list-style-type: none"> • Surprising discoveries • Challenges or entanglements • Connections made (e.g. musical, social, personal) • Differences/similarities to familiar ways of engaging music, improv, comp, performance • Feelings/thoughts while creating; w/ others • Future Orientation (i.e. how, and in what ways could sound-based methods be employed in your musical learning) • Feelings about working in a group to create something new • Grunts, gripes, wishes, and take-a-ways 	<p>The SNJ is your personal record of events, observations, critiques, surprises, musings, etc. about your experiences creating and thinking with and through sound. SNJs may include poems, art drawings, stories, or any medium you find comfortable that expresses your experiences as a study participant. Time will be allotted during class to write in your SNJ.</p> <p>While there are no specific “prompts” for the SNJ, you may wish to reflect on some of the points offered in this table to the left</p>  <p>SNJs may be in written form on paper or via a word processing software (e.g. MS Word, Apple Pages, etc.), or you may record audio clips via the same device you use to record sounds for the project.</p> <p>SNJs will not be shared with other participants or researchers without your permission. From time to time during the study, researchers may ask for volunteers to share reflections from their SNJs. You may also choose to share selections or full SNJs if you are comfortable doing so. With your permission, researchers would make a digital copy of your selections and return your original.</p>

	<p>Your insights are pertinent to this study, so as you are comfortable sharing, we, the researchers would be appreciative and indebted.</p>
<p>Sound Mapping (SM)</p>  <p><u>?'s To Think About</u></p> <ul style="list-style-type: none"> • Where are you sonically in a space/place? • What sounds indicate that space/place? Recreate that space/place via sound clips. • What sounds seem to belong there? Explain. • What sounds seem strange, or out-of-sync with the space/place? Explain. • What sounds do you expect to hear, and don't? Why do you expect to hear them, and why do you think they are not present? • Can you hear a rhythm in the space/place? Can you clap it, beat-box, or imitate it in your own way? RECORD THAT TOO FOR FUN 😊 • Can you detect musical pitches (e.g. high/low buzzing of bees, train crossing bells, busking)? • Does a space/place have a unique timbre associated with it (e.g. whizzing of autos on highway, street party, school corridor during passing bell)? 	<p>Sound Mapping (SM) is a solo venture for you to open your ears to new (and old) sounds in three different spaces and places you trek: home, neighborhood, and school.</p> <p>Your task in this activity is twofold. First, try to collect sounds that sonically trace your movement from one place to the next. For example, how does a walk from home to a neighborhood convenience store sound? Or, the trek from home to school, and back? What sounds the same <i>going to</i> versus <i>returning from</i>? Think about how the time of travel (e.g. morning, afternoon, evening) between the same space/place changes sonically.</p> <p>Second, listen out for sounds that seem out-of-sync with the spaces/places you travel. For example, if you are in a neighborhood park you may hear the laughter of children playing or squawks from feisty geese. A park is generally considered a serene space. Are there sounds that are not so serene to your ear? What are they? What/who is making them? How does it make you feel?</p> <p>Your goal is to try to capture your sonic experiences contextually so that it could serve as a guide to a potential listener. Imagine you are creating a sonic version of a tourist map, instead of a visual one and someone could possibly retrace your steps just by listening out for sounds you have clued them in to — kind of like “I Spy” adventure books, except, instead of visual objects to be found, it is sounds. If you gave your school Sound Map to a sibling, parent, or classmate, for instance, could they guess the location just by listening to the sounds you have collected? Could they retrace your steps just by listening?</p> <p>Your maps may be plotted using any DAW you prefer (e.g. Logic Pro, BandLab®, etc.). Simply name your files separately (home, school, neighborhood) and begin importing sound clips. You may choose to use free online mapping tools. Always feel free to reach out to any of the researchers should you need technical assistance.</p>

	<p>SM is meant to provide an alternative space for dynamic listening, critical reflection, and creative reinterpretation of possibly familiar places. Sounds collected from the SW will also be uploaded to the SCC table and used as creative critical material for reengagement in SSWs. You may find inspiration here: http://www.soundaroundyou.com/</p>
<p>Under Construction (UC)</p>	<p>Mid-way through the study (SSW # 5) all groups will share with each other their progress on Sound Pieces (SP). UC offers participants a chance to describe, discuss, critically listen, and defend their creative choices with their peers. UC will utilize Lis Lerman’s four-step “Critical Response Process” as its protocol (https://lizlerman.com/critical-response-process/)</p> <p>Derived from some professional symphony orchestra’s practice of opening rehearsals to audiences of new up and coming works by composers-in-residence, UC promotes a space for unpolished evolving musical pieces to be rehearsed and critiqued.</p>
<p>Sound Table (ST)</p>	<p>Following the UC session (SSW #6) and the critique offered by their peers, participants will convene one of two round tables, or Sound Table (ST).</p> <p>ST1 will offer participants an opportunity to integrate feedback from the UC into their SPs. ST1 will focus on the creative processes of participants.</p> <p>ST2 (SSW #8) is for participants to share critical responses to sounds they have encountered during the study. ST2 will offer participants an opportunity to share journal entries and sound maps.</p>

Sound Out! (SO!)	<p>The final session features live performances of each group’s Sound Piece (SP) including Sonic Score Visualizations (SSV).</p> <p>Members of each group will be given a few moments to highlight aspects of their creative critical processes during the study.</p> <p>SO! is a celebration intended to honor the time and diligence participants have invested in actualizing their creative critical processes into products of which they can be proud.</p>
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AUDIO & VIDEO RECORDINGS

Audio recording is integral to this study and will be used during the duration of the study for data collection, analysis, and reporting purposes. Video recording will also be used to help better understand group interaction with sound-based methods. For purposes of accuracy, the researchers respectfully request your permission to audio and/or video record the following: Sound Session Workshops (SSWs); Under Construction (UC); Sound Table 1 and 2 (ST1/ST/2); and Sound Out! (SO!). The video recordings will be used primarily for analysis and are not intended for public display. However, if a video segment clarifies aspects of the study or research questions that audio fails to capture, permission to use your likeness is requested, and granted if you consent to being a study participant. However, your true identity will be “blurred” and made unrecognizable using video editing software. Excerpts from the audio recordings may be used, and may include spoken dialogue, improvisations, and Sound Pieces (SPs). In addition, spoken dialogue may be transcribed from the audio recordings for the purposes of distilling quotes, but names will be changed to pseudonyms to protect the personal identity of the speaker.

DATA CONFIDENTIALITY AND CREATIVE INTELLECUTAL RIGHTS

All data collected during the study will be maintained as confidential and no identifying information such as names will appear in any publication or presentation of the data. You will be assigned a pseudonym that will be kept throughout the study documents, and no identifiable information will be included in any dissemination of research results. A list linking your pseudonym to your name will be kept by the researcher in a secure place, separate from the study file. If the results of the study are published, your name will not be used as anonymity will be preserved in accordance with Western’s ethics protocols and guidelines.

Due to the collaborative nature of this study, creative works produced such as the two Sound Pieces (SPs) and their corresponding Sonic Score Visualizations (SSVs), are considered a “work of joint authorship” of all participants, including researchers. A work of joint authorship, in Canadian legal copyright terms means: *a work produced by the collaboration of two or more authors in which the contribution of one is not distinct from the contribution of the other author or authors.* <https://www.canlii.org/en/ca/laws/stat/rsc-1985-c-c-42/latest/rsc-1985-c-c-42.html> While copyright of creative works produced during the study is not of interest to the researchers, the sentiment behind “a work of joint authorship” will be honored, in that all participants, including researchers, *will be accountable to one another for certain uses they make of their joint work.* <https://certificates.creativecommons.org/ccertedu/chapter/2-1-copyright-basics/>

Digitized Sonic Score Visualizations (SSVs) and recorded audio clips of Sound Pieces (SPs) may be disseminated in research reports (e.g., dissertation, journals) or presentations (e.g. music education conference, teacher training/PD), but no identifying markers will be present so they cannot be linked to an individual participant. Should you choose to share your Sonic Narrative Journal (SNJ) in whole, or in part, passages may be digitized and disseminated in research reports or presentations, but no identifying markers will be present so they cannot be traced to an individual participant. In other words, researchers will not reveal your identity in any reporting and dissemination.

VOLUNTARY PARTICIPATION AND LIMITS OF CONFIDENTIALITY

Your participation in this study is completely voluntary and you are free to withdraw permission at anytime for any reason without penalty or prejudice from the researchers. Please feel free to ask any questions of the researchers before signing this form and at any time during the study. You have the right to request withdrawal and elimination of all information collected that pertains to you at anytime during the study. If you wish to have your personal and/or identifiable information removed, please let the researchers know and we will accommodate your request.

Due to the collaborative nature of this study, please be aware that creative products generated for/ by the group (e.g. sounds, improvisations, compositions, graphic scores) are subject to analyses and reporting. Sounds collected and shared on the Sound Collection and Classification (SCC) table, for example, are a “joint work” and subject to analyses and reporting. The researchers will take every precaution to maintain participant confidentiality within the data, however, the nature of these group-based research activities prevents researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is shared your fellow participants to others.

However, personal journals, Sound Maps (SM), statements made during sound sessions, including Under Construction (UC), Sound Table (ST), or Sound Out! (SO!), and email correspondence, and any identifiable data will be destroyed upon your request to withdraw from the study.

Please be aware that delegated institutional representatives of Western University and its Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research in accordance with regulatory requirements.

STORAGE OF DATA

All physical data derived from the study such as shared journal entries, whiteboard jottings, graphic scores, etc. will be converted to a digital format (scanned or photographed) by the end of the Sound Out! (SO!) and hard copies of these artefacts will remain the property of the individual participant. Audio and video recordings will be downloaded immediately following each session, and all digital data will be stored on a password-protected computer and hard drive for seven years and then deleted.

RISKS OR DISCOMFORTS

Possible risks in this study are that (a) you may not feel completely comfortable performing some of the activities or (b) you may not feel comfortable improvising in a small group or (c)

some sounds may recall unwanted memories. You may choose not to do any activity that makes you uncomfortable and may quit the study at any time.

BENEFITS AND COMPENSATION

You may benefit by enhancing your sonic sensibility, critical listening skills, and creative music making capacities. In addition, information gathered in this study may be of use to you in your future practice as a musician.

You will not be compensated for your participation in this research study.

USE OF TECHNOLOGY

This study uses 2 third-party technology platforms outside of the university network: Padlet® and BandLab®. Pursuant to Western’s data security protocols, Padlet® and BandLab® are private and secure tools to use in this study as participants’ identity will never be revealed or shared, nor IP addresses collected or cookies tracked. Participants will be provided links to collaborate within these platforms by the research team. For privacy policy details use the following links:

<https://padlet.com/about/privacy#:~:text=The%20privacy%20of%20your%20user,the%20padlet%20can%20view%20content>

<https://blog.bandlab.com/edu-privacy-policy/>



CONSENT SIGNATURE PAGE

Title of the project: Sound Currents: Exploring Sound’s Potential to Catalyze Creative Critical Consciousness in Adolescent Music Students and Undergraduate Music Education Majors

Principal Investigator: Dr. Patrick Schmidt, Professor, Don Wright Faculty of Music

Co-Investigators: Jashen Edwards, PhD Candidate in Music Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Print Name of Participant Signature

Date (DD-MMM-YYYY)

My signature means that I have explained the study to the participant named above. I have answered all questions.

Print Name of Person
Obtaining Consent

Signature

Date (DD-MMM- YYYY)

CONSENT DELIVERY

There are two ways your consent will be collected in this study: verbally and in writing. Should we meet in person, I will bring copies of the Letter of Information and Consent (LOI/C) with me to your music classroom. After I present the study details and invite you to participate, if you agree I will ask you to sign the Consent Signature Page (above). I will then collect the form from you. Should we meet virtually via Zoom®, I will email your teacher a PDF copy of the LOI/C requesting he print and distribute paper copies to you. During our Zoom® meeting, I will ask your permission to record. After I present the study details and invite you to participate, if you agree I will ask you to verbally consent via Zoom®. You will then sign and return the Consent Signature Page (above) to your teacher, who will then send to me scanned copies via my university email address, or sent Canada Post to my campus office address at Western.

COVID - 19 CONTINGENCY PLANS

In the event COVID -19 limits the capacity to meet in person during the study, researchers will, in accordance with safety and health protocols delineated by province and school district officials, adapt to a distance/blended learning/research scenario. Adjustments and accommodations will be made in the following ways:

Sound Session Workshops (SSWs) will be moved online via Western University’s Zoom® platform. Links with meeting times commensurate with in-class time will be set up by the researchers and emailed to participants. Chats will be stored directly to the researcher’s computer hard drive and used exclusively by them for analysis and reporting. Like in-person SSWs, online SSWs will be group-driven, and include improvisation and composition games, critical reflections about sounds collected, and Sound Jams. Participants will keep a Zoom window open on their personal computer while opening another window to launch their Sound Piece (SP) projects in the Digital Audio Workstation (DAW) being used so they can commence working on their SPs with their assigned groups. Participants may also choose (and will be encouraged) to work outside of the allotted Zoom® meetings on their SPs in accordance with district rules and regulations as they related to allotted on-screen usage. Because DAWs like BandLab® tracks all

real-time exchanges researchers will be able to detect all new data as it happens. Under Construction (UC), the two Sound Table (ST) sessions, and the final Sound Out! (SO!) will also occur online via Zoom® if necessary.

Appendix B: G2 Letter of Information and Consent

Note: Note: All dates and timelines indicated changed as a result of pandemic related school closures.



G2 Letter of Information and Consent (LOI/C)

Title of the project: Sound Currents: Exploring Sound's Potential to Catalyze Creative Critical Consciousness in Adolescent Music Students and Undergraduate Music Education Majors

Principal Investigator: Dr. Patrick Schmidt, Professor, Don Wright Faculty of Music

Co-Investigators: Jashen Edwards, PhD Candidate in Music Education

INVITATION and PURPOSE OF STUDY

You have been identified as a possible participant in this study because you are a current music education undergraduate who has responded to recruitment materials distributed at Western, or by word of mouth. We are inviting you to participate in this new research study exploring sound's potential use for creative critical engagement in music learning and teaching. You would be one of 8-10 other music education undergraduates chosen and be expected to work individually and collaboratively. The study is designed with a number of sound-based activities, or methods, asking you to listen closely and carefully to sounds in your environments (e.g. campus, neighborhood, home, cyberspace, etc.) and then to digitally record, upload, critically analyze, and collaboratively create two sound pieces using sounds collected. This study hopes to create a better understanding of how pre-service music teachers may creatively and critically employ sound-based methods in their music making and future pedagogical practice.

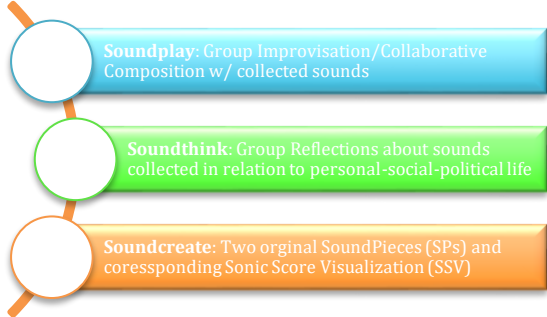
STUDY TIMELINE and EXPECTATIONS

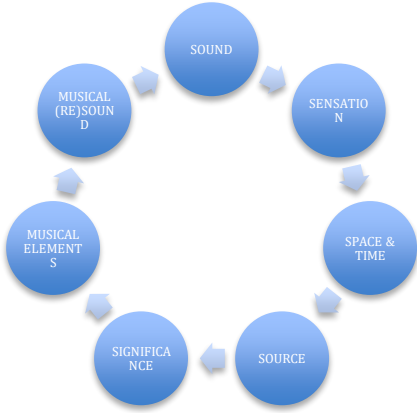
This study will be conducted between October and December 2021. Over the course of six weeks, you would agree to participate in 4 three-hour workshops and 1 two-hour group sound walk. In addition, you would agree to participate in a pre-/post workshop interview (~ 30 min. x2) and a focus group (~ 60 min.). These would be on/near Western campus. In the event COVID- 19 limits our capacity to meet in person, all meetings and activities would be moved online via Zoom® (see G2 COVID- 19 Contingency Plan in Appendix below). All participants are expected to use their own recording devices (e.g. mobile phones, tablets, Zoom H1, Sony, Olympus, etc.). Most digital recording devices sample at a rate of 44.1 kHz and allow easy transfer and uploads of mp3 or wav files. If you do not own such a device, or need a tutorial on

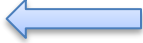
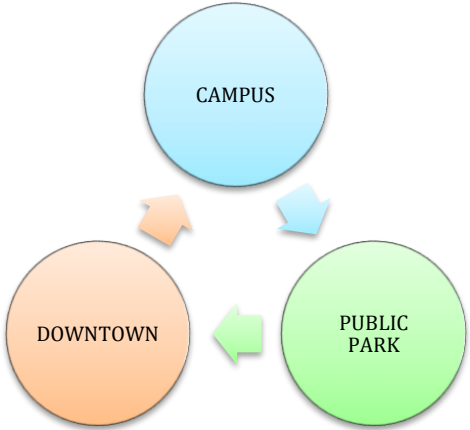
how to use a device, you may reach out to the researcher(s) for assistance. It is possible that a device may be borrowed. However, if physical distancing is in place due to COVID-19 and a device cannot be safely provided or secured for use, then, unfortunately, it is not possible for you to participate in this study. Every effort will be made to safely assist you in being a participant.

ACTIVITIES and DESCRIPTIONS

Below is a detailed list of activities you are being asked to participate in during the study. Please read through these carefully and feel free to reach out if you have any questions. We will have an opportunity to review these together during a Zoom® meeting before you agree to consent to being a participant. Our hope is for you to have an immersive interactive creative critical experience using sounds found in your everyday life. Every activity in this study is designed with that purpose in mind. Therefore, your time and commitment to this study is not insignificant because it is your experiences, ideas, and critiques that will (in)form the basis of our understandings for how and in what ways sound may be a creative critical tool in music education environs.

ACTIVITY	DESCRIPTION									
Music Background Questionnaire (MBQ)	Once you agree to participate in the study, you will be emailed a Qualtrics® link to the MBQ. The MBQ is a 17-point questionnaire that helps us better understand your musical background, interests, and practice.									
pre-Sound Session Workshop (SSW) Interview	Before the first SSW, we will meet for about 30 minutes to expand upon your MBQ responses, situate the study, and address any questions or concerns you may have including scheduling and logistics.									
<p>Sound Session Workshop (SSW)</p>  <table border="1"> <thead> <tr> <th>SEGMENT 1</th> <th>SEGMENT 2</th> <th>SEGMENT 3</th> </tr> </thead> <tbody> <tr> <td>Soundbreakers</td> <td>Sound Improvisation Games</td> <td>Structuring Sounds</td> </tr> <tr> <td>Critical Reflections on</td> <td>Sounding Stories</td> <td>(Re)structuring Soundstories</td> </tr> </tbody> </table>	SEGMENT 1	SEGMENT 2	SEGMENT 3	Soundbreakers	Sound Improvisation Games	Structuring Sounds	Critical Reflections on	Sounding Stories	(Re)structuring Soundstories	<p>The 4 three-hour SSWs are group-driven and will include improvisation and composition games, critical reflections about sounds collected, and Sound Jams. SSWs are guided by three principles: soundplay, soundthink, and soundcreate. The three-hour sessions will be segmented into approximately twenty-minute intervals for a total of nine immersive activities (see left side of table). SSWs are cumulative and culminate with the creation of two original Sound Pieces (SP) — one mainly acoustic using instruments you play, and one mainly digital using BandLab®, an online Digital Audio Workstation (DAW).</p> <p>Once you agree to participate in the study, you will be sent a link by me via email to join a BandLab® project called: <i>soundcurrents - G2A</i> and <i>soundcurrents - G2B</i>, which will grant you access.</p>
SEGMENT 1	SEGMENT 2	SEGMENT 3								
Soundbreakers	Sound Improvisation Games	Structuring Sounds								
Critical Reflections on	Sounding Stories	(Re)structuring Soundstories								

Sounds			<p>Each SP will also include a corresponding graphic score, or Sonic Score Visualization (SSV), which will be collectively created. Central to the breadth and development of the SSWs (and the study in general) are two activities you will be asked to do on your own time. These should take no more than 30 minutes each week during the course of the six weeks. These activities include: recording and uploading ~ 5 to 7 sounds each week to the Sound Collection and Classification (SCC) table; and keeping a Sonic Narrative Journal (SNJ) reflecting your experiences during the study.</p>
Visualizing Sounds	Sound-Sight Improvisation Games	Sound Jam	
Sound Collection and Classification (SCC) Table			<p>Once you agree to participate in the study, you will be emailed a link to Padlet®, an online communal bulletin board. The SCC table is housed in this location. The SCC table is a collaborative space for all study participants (and the researchers). All data entered in the SCC table can be heard and seen by all study participants (and the researchers).</p>
			<p>The SCC table is a repository for all study participants to draw from for musical inspiration and instrumentation/orchestration creative ideas, as well as a site to prompt critical dialogue about sound and its attributed meanings in participant’s lives.</p>
Sonic Narrative Journal (SNJ)			<p>You may view a non-live version of the SCC table by clicking here:</p>
			<p>https://padlet.com/dissound/xqpkmi1358d3i78 <u>X</u></p>
			<p>For each sound uploaded you are asked to complete the SCC table as specified in the link above (see SCC Protocols for details).</p>
			<p>The SNJ is your personal record of events, observations, critiques, surprises, musings, etc. about your experiences creating and thinking with and through sound. SNJs may include poems, art drawings, stories, or any medium you find comfortable that expresses your experiences as a study participant. Time will be allotted at the end of each SSW for you to enter data into your SNJ.</p>

<ul style="list-style-type: none"> • Surprising discoveries • Challenges or entanglements • Connections made (e.g. pedagogical, musical, social, personal) • Differences/similarities to familiar ways of engaging music, improv, comp, performance • Feelings/thoughts while creating; w/ others • Future Orientation (i.e. how, and in what ways could sound-based methods be employed in your learning/teaching) • Grunts, gripes, wishes, and take-a-ways 	<p>While there are no specific “prompts” for the SNJ, you may wish to reflect on some of the points offered in this table to the left</p>  <p>SNJs may be in written form on paper or via a word processing software (e.g. MS Word, Apple Pages, etc.), or you may record audio clips via the same device you use to record sounds for the project.</p> <p>SNJs will not be shared with other participants or researchers without your permission. During the Focus Group session and post-SSW interview (described below), I will ask if anyone would like to share any insights or passages from their SNJs, as these could be helpful in elucidating processes and potential problems in the study design and its sound-based activities.</p> <p>You may also choose to send me selections or full SNJs if you are comfortable doing so.</p>
<p>Sound Walk (SW)</p> 	<p>Mid-way through the study (~ week 3) we will meet for a group Sound Walk (SW) lasting approximately 2.5 hours. We will meet on/near Western campus proceeding through Gibbons Park onward to the downtown area digitally recording sounds along the way. In the event of COVID- 19 limitations we will not meet in person, so the SW must be done as a solo venture (see G2 COVID- 19 Contingency Plan in Appendix below).</p> <p>The SW is meant to provide an alternative space for collaborative dynamic listening, critical reflection, and creative reinterpretation of possibly familiar places.</p> <p>During the SW, you will be asked to listen out for signals or sound gestures that strike you as significant and/or lay outside of your normal expectations and perceptions.</p> <p>Sounds collected from the SW will also be uploaded to the SCC table and used as creative critical material for reengagement in the remaining SSWs.</p>

Focus Group	Following the final SSW, we will convene a Focus Group session. This 1-hour session will explore the theme, “Sound as a creative critical conduit for music learning and teaching”, and draw upon your experiences as a study participant. There will be guiding questions, however, this should be thought of as a group “think tank” and an endeavor to further critique the processes and products borne from your participation in the study.
post-Sound Session Workshop (SSW) Interview	Following the Focus Group session, you will be asked to participate in a post-Sound Session Workshop (SSW) interview. During this interview, you will be asked to share insights and critiques of your experiences with sound-based methods, as well as consider ways you may employ them (or not) in your music practice and future teaching practice.

POST STUDY PARTICIPATION

All recruitment and data collection should commence by October 1, 2021 and conclude by December 31, 2021. However, for the purposes of analysis and reporting, which will include member checking, participants may be contacted after January 1, 2022.

AUDIO & VIDEO RECORDINGS

Audio recording is integral to this study and will be used during the duration of the study for data collection, analysis, and reporting purposes. Video recording will also be used to help better understand group interaction with sound-based methods. For purposes of accuracy, the researchers respectfully request your permission to audio and/or video record the following: 4 Sound Session Workshops (SSWs); Sound Walk (SW); and, the Focus Group session. The video recordings will be used primarily for analysis and are not intended for public display. However, if a video segment clarifies aspects of the study or research questions that audio fails to capture, permission to use your likeness is requested, and granted if you consent to being a study participant. However, your true identity will be “blurred” and made unrecognizable using video editing software. Excerpts from the audio recordings may be used, and may include spoken dialogue, improvisations, and Sound Pieces (SPs). In addition, spoken dialogue may be transcribed from the audio recordings for the purposes of distilling quotes, but names will be changed to pseudonyms to protect the personal identity of the speaker.

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All data collected during the study will be maintained as confidential and no identifying information such as names will appear in any publication or presentation of the data. You will be assigned a pseudonym that will be kept throughout the study documents, and no identifiable information will be included in any dissemination of research results. A list linking your pseudonym to your name will be kept by the researcher in a secure place, separate from the study

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While copyright of creative works produced during the study is not of interest to the researchers, the sentiment behind "a work of joint authorship" will be honored, in that all participants, including researchers, *will be accountable to one another for certain uses they make of their joint work.* <https://certificates.creativecommons.org/cccertedu/chapter/2-1-copyright-basics/>

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Due to the collaborative nature of this study, please be aware that creative products generated for/ by the group (e.g. sounds, improvisations, compositions, graphic scores) are subject to analyses and reporting. Sounds collected and shared on the Sound Collection and Classification (SCC) table, for example, are a "joint work" and subject to analyses and reporting. The researchers will take every precaution to maintain participant confidentiality within the data, however, the nature of these group-based research activities prevents researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is shared your fellow participants to others.

However, personal journals, interview and focus group statements, Music Background Questionnaire (MBQ), email correspondence, and any identifiable data will be destroyed upon your request to withdraw.

Please be aware that delegated institutional representatives of Western University and its Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research in accordance with regulatory requirements.

STORAGE OF DATA

All physical data derived from the study such as shared journal entries, whiteboard jottings, graphic scores, etc. will be converted to a digital format (scanned or photographed) by the end of the Focus Group session and hard copies of these artefacts will remain the property of the individual participant. Audio and video recordings will be downloaded immediately following each meeting/session, and all digital data will be stored on a password-protected computer and hard drive for seven years and then deleted.

RISKS OR DISCOMFORTS

Possible risks in this study are that (a) you may not feel completely comfortable performing some of the activities or (b) you may not feel comfortable improvising in a small group or (c) some sounds may recall unwanted memories. You may choose not to do any activity that makes you uncomfortable and you may quit the study at any time.

BENEFITS AND COMPENSATION

You may benefit by enhancing your sonic sensibility, critical listening skills, and creative music making capacities. In addition, information gathered in this study may be of use to you in your future practice as a musician and music teacher.

You will not be compensated for your participation in this research study.

USE OF TECHNOLOGY

This study uses 2 third-party technology platforms outside of the university network: Padlet® and BandLab®. Pursuant to Western's data security protocols, Padlet® and BandLab® are private and secure tools to use in this study as participants' identity will never be revealed or shared, nor IP addresses collected or cookies tracked. Participants will be provided links to collaborate within these platforms by the research team. For privacy policy details use the following links:

<https://padlet.com/about/privacy#:~:text=The%20privacy%20of%20your%20user,the%20padlet%20can%20view%20content>

<https://blog.bandlab.com/edu-privacy-policy/>



CONSENT SIGNATURE PAGE

Title of the project: Sound Currents: Exploring Sound’s Potential to Catalyze Creative Critical Consciousness in Adolescent Music Students and Undergraduate Music Education Majors

Principal Investigator: Dr. Patrick Schmidt, Associate Professor, Don Wright Faculty of Music

Co-Investigators: Jashen Edwards, PhD Candidate in Music Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Print Name of Participant Signature *Date (DD-MMM-YYYY)*

My signature means that I have explained the study to the participant named above. I have answered all questions.

Print Name of Person
Obtaining Consent Signature *Date (DD-MMM- YYYY)*

CONSENT DELIVERY

There are two ways you are requested to acknowledge your consent in this study: verbally and in writing. When you reach out to the researchers expressing interest in being a study participant a Zoom® meeting will be scheduled. With your consent, the Zoom® session will be recorded. The researcher will review the Letter of Information and Consent (LOI/C), clarify as needed and answer questions, and then invite you to be a participant in the research study.

At that time, you will verbally consent to being a participant in the research study.

Once you have consented verbally, you will sign, scan, and email the Consent Signature Page (above).

You will also be asked to send a physical copy via post.

COVID - 19 CONTINGENCY PLANS

In the event COVID -19 limits the capacity to meet in person during the study, researchers will, in accordance with safety and health protocols delineated by province and Western university officials, will adapt to a distance/blended learning scenario. Adjustments and accommodations will be made in the following ways:

Sound Session Workshops (SSWs) will be moved online via Western University's Zoom® platform. Links with meeting times will be scheduled by the researchers and emailed to participants. Chats will be stored directly to the researcher's computer hard drive and used exclusively by them for analysis and reporting. Like in-person SSWs, online SSWs will be group-driven, and include improvisation and composition games, critical reflections about sounds collected, and Sound Jams. Participants will keep a Zoom window open on their personal computer while opening another window to launch their Sound Piece (SP) projects in the Digital Audio Workstation (DAW) being used so they can commence working on their SPs collaboratively.

Taking into account COVID- 19 and adhering to province-wide and Western University's social distancing protocols, G2 participants (music education undergraduates) may opt to perform a solo sound walk instead of a group sound walk. However, a group Sound Walk (SW) of approximately 8-10 participants is appropriate and in accordance with health recommendations and physical distancing mandates supported by government and educational institutions (e.g. "pandemic pods" / "social circles" — see: <https://globalnews.ca/news/7221624/coronavirus-education-learning-pandemic-pods-canada/>) and <https://www.ontario.ca/page/create-social-circle-during-covid-19>

Participants will be asked to wear masks during the SW. The only campus access necessary is outdoor public spaces, so if access to campus interiors (e.g. buildings, halls, etc.) is limited, this will not derail the purpose of the SW, which is to gather sonic material in three varying locales.

Appendix C: G2 Recruitment Flyer



PARTICIPANTS NEEDED FOR RESEARCH IN MUSIC EDUCATION

We are seeking 8-10 volunteers to form a small group and take part in a new study about sound's potential use for creative critical engagement in teaching and learning. This study hopes to create a better understanding of how pre-service and potential music teachers may creatively and critically employ sound-based methods in their music making and future pedagogical practice. This study is open to all music major undergraduates.

If you are interested and agree to participate you would be asked to listen, digitally record, analyze, describe, map, and share sounds found in your daily experiences. Using these sounds you and your group will collaboratively improvise and compose two original pieces sharing your creative and critical processes along the way.

Your participation would involve attending 4 three-hour sound session workshops and 1 two-and-a-half-hour sound walk. In addition, there is a 30-minute pre-/post-interview and 1 two-hour focus group session at the end of the study. All sessions and activities will be audio and video recorded.

For more information about this study, or to volunteer for this study,
please contact:

Jashen Edwards

Don Wright Faculty of Music

Appendix D: G2 Email Recruitment Script

Note: All dates and timelines indicated changed as a result of pandemic related school closures.



Email Script for G2 Recruitment

Subject Line: Mass Recruitment Email — Invitation to participate in new research

Dear Music Education Undergraduate,

We would like to invite you to participate in a new research study here at Western this fall. Under the direction of Dr. Patrick Schmidt, PhD student Jashen Edwards is seeking 8-10 participants between October and December, 2020. This study is open to current music education undergraduates. This study hopes to create a better understanding of how pre-service music teachers may creatively and critically employ sound-based methods in their music making and future pedagogical practice.

Briefly, the study explores sound's potential use for creative critical engagement in music teaching and learning. Some of the activities are done solo and others in a collaborative ensemble setting here on campus. Given where we are with COVID- 19, it is possible that group work will be moved online to a Zoom platform to ensure your continued health and safety. Throughout the study you will be asked to actively listen, digitally record, and critically analyze and discuss sounds found in your daily experiences. Using these sounds you will collaboratively create two original sound pieces sharing your creative and critical processes along the way.

Your participation would involve 4-three-hour sound session workshops and 1-two-hour group sound walk near campus in the London area. In addition, you will be asked to participate in a 30-minute pre-/post-interviews and 1-two-hour focus group. All sessions will be audio and video recorded.

If this study sounds interesting to you and you wish to participate, or would like more information, please reply to this email ASAP and I will send you a Letter of Information and Consent (LOI/C), and schedule a Zoom® meeting to answer any questions.

Thank you so much for your time and consideration and help in making Western a top institution for scholarship and creative practice — <https://www.uwo.ca/research/about/>

Jashen Edwards

PhD candidate, Don Wright Faculty of Music

Appendix E: G1 Getting Familiar Questions

The following three questions were asked to high school study participants in the first Sound Session Workshop (SSW) as a way to get familiar with their musical backgrounds, personalities and present and future musical goals.

1. What can you tell me about your past and current musical experiences, or any future music goals you have?
2. What music you currently are listening to?
3. Why you decided to participated in the study? What would you like to gain?

Appendix F: G1 Sound Table (ST) Questions

The following three questions were asked to high school study participants during the final Sound Table (ST) session as a way for them to share their final thoughts and reflections about their experiences during the study.

1. Where do you see your musical self in the future?
2. What do you see as the benefits, musical and otherwise of listening more closely to our environment?
3. What was your favorite part of creating this way? What was the most challenges you faced in creating this way?

Appendix G: G2 Music Background Questionnaire (MBQ)

1. Please input your assigned unique code for the study (Ex. G2SC1, G2SC2, etc.)

2. Highest level of education completed: (please circle one)
high school, undergraduate, masters, doctorate, post-doctorate, other explain
3. List all of your degrees including major areas of emphasis including the level of each (e.g. Undergraduate Music Education, Masters in Performance, etc.):
4. Primary Instrument or Voice:
5. List any secondary instruments or voice:
6. Describe your experience with improvisation. Please list any coursework that focused on or included improvisation, any performance experience you may have including formal and informal ensembles, any lessons or group learning you may have participated, and any other like experience.
7. I am a proficient improviser:
not proficient 1 2 3 4 5 proficient
8. Explain your rating from question 9. Describe why you hold this self-belief. What do you base this rating upon, what comparisons are you making, what measures are you using?
9. Are there situations where you feel that you might have a higher or lower proficiency with improvisation? If yes, describe what situations or genres that make you feel more proficient and less proficient.
10. Have you ever participated in expressive arts or creative arts activities? If yes, please explain what activities you have participated and how much experience you have had with each.

11. How comfortable are you using other art forms such as drawing, acting, poetry writing, movement, etc. Are there any that you prefer? Are there any that you dislike or are uncomfortable using? Please explain.
12. Are there any arts activities that you know to be or suspect might be physically or emotionally uncomfortable for you to participate? Please explain.
13. Is there anything else you want me to know before you participate in this study?
14. Provide a brief explanation or thoughts that come to mind when you consider the following words: sound, silence, noise, music, improvisation, and composition.
15. Please identify and describe:
 - A. First sound you ever recall hearing
 - B. Loudest sound you ever recall hearing
 - C. Softest sound you ever recall hearing
 - D. Favorite sound. Why?
 - E. Least favorite sound. Why?
 - F. Scariest sound. Why?
 - G. Funniest sound. Why?
15. Do you have a digital recording device on your phone or tablet device?
16. How would you define “creative critical consciousness” and how would you describe your experience(s) of such in your music education thus far?
17. What would you like to gain from being a participant in this study?

Appendix H: G2 Pre-SSW Interview Questions

Q1: I am interested in knowing more about how you interact with sound, everyday. During a typical day, how often do you pause to listen and reflect on sounds you encounter? Could you recall a sound and describe your encounter in as much detail as possible?

Q2: In what ways, if any, do you think experience improvising and composing with sounds instead of music notes could be different/same?

Q3: What kinds of creative-based music making practices have you seen in action and/or experienced yourself either as facilitator or participant (e.g. workshops, extracurricular music activities)?

Q4: How did you find such experiences (i.e. comfortability level)? Was it easy to join and participate in them?

Q5: In your own words, could you try to explain any ways in how creative-based music making activities were different from or the same as traditional music making practices you are accustomed?

Q6: What attracted you to participate in this study?

Q7: Any questions?

Appendix I: G2 Post-SSW Interview Questions

Q1: Now that we have concluded the project, I would like to know more from you about how you experienced it. Could you recollect and describe one or two experiences that stood out to you while you were engaged in the sound collection activities (i.e. SCC, SW).

Q2: I am hoping that you feel comfortable being critical about the project, too. Could you talk about any aspect of the project that you think could have been different? Anything that did not resonate with you?

Q3: Could you talk about if you have noticed changes in the way you listen to environs you inhabit and/or pass through while participating in this study?

Q4: In what ways, if any, have you noticed changes in the way you approach improvising and composing while participating in this study?

Q5: During this study you have been asked to keep a journal noting your reflections. Could you please share with me one or two main ideas/themes you discovered about your creative critical processes?

Q6: Compare journaling with art responses. Did either or both help you to better understand your inner creative critical experiences during group improvisation and collaborative composition activities?

Q7: Were there any specific challenges you discovered when working collaboratively to identify and discuss various sound's meanings?

Q8: Were there ever any sounds you encountered during the study that seemed odd, off-putting, or out of place, or that rubbed you the "wrong" way, or that spoke to specific societal issues? What were they?

Q9: Were there specific sounds you found elicited or inhibited your creativity?

Q10: Could you imagine yourself using some of the activities you experienced in this study in your future teaching practice? What specifically? Why? How would you adapt?

Q11: What have you learned about yourself and others by engaging in sound-based methods?

Q12: What were your expectations coming in to the study? Were they met, or not?

DEFINE: How would you define creative critical consciousness? And, why might this be important in 21st Century music teaching and learning spaces?

Appendix J: G2 Focus Group Questions

INTRO

Please introduce yourself, state their intended teaching and/or music career focus (e.g. instrumental, choral, general), share one reason why you were attracted to participating in the present study, and one surprise you learned about themselves while engaging in sound-based methods.

FG Q1: How useful do you think sound-based activities are in terms of improving understanding about sound, creativity, and criticality?

FG Q2: How did you feel improvising and composing (i.e. playing musically) with sound compared/contrasted with using tonal elements (i.e. notes, scales)?

FG Q3: How did you find the process of choosing and navigating sounds for use in your final Sound Pieces (SPs) i.e. challenges, obstacles, discoveries, etc.?

FG Q4: Did you find that certain sounds enhance/inhibit group's creative choices? Elaborate.

FG Q5: Talk to us about if you feel that you would use sound-based methods in your musical practice and future music teaching? Why, or why not? And how?

FG Q6: From what you experienced as part of this project, what challenges might present themselves when using sound-based methods in musical practice and future music teaching?

FG Q7: What do you wish we had covered in more detail? What activities would you have modified? Why? How?

FG Q8: Take a few moments before we leave and define on the index card provided the following terms: composition, improvisation, sound, silence, and noise. Be brief. One or two short sentences will suffice.

FG Q9: In what ways, if any, has your perception of your self as a composer/creator been challenged and changed? How, and in what ways?

Appendix K: Sound Collection and Classification (SCC) Protocol

The Sound Collection and Classification (SCC) table is an online collective space powered by Padlet® — a third-party customizable bulletin board. Currently, Western’s Owl platform does not offer a solution of this nature, consequently Padlet® is a necessary data collection tool in this study. Pursuant to Western’s data security protocols, Padlet® is a private and secure tool to use in this study as participants’ identity will never be revealed or shared, nor IP addresses collected or cookies tracked. According to Padlet’s privacy policy: *Only registered users invited to the padlet forum or provided with a link can access content.*

(<https://padlet.com/about/privacy#:~:text=The%20privacy%20of%20your%20user,the%20padlet%20can%20view%20content>)

I, the researcher, am a registered user and will provide a link via my Western OneDrive account to all participants. Participants do not need, nor will they be required to enter any personal data such as name, email, etc. They only need the link I will directly provide to them to access the SCC table.

The SCC table is designed specifically for this study by the researcher. The SCC table is available for all participants to upload their recorded sounds and document specific reflections i.e. 7 data points: sound, sensation, space & time, source, significance, musical elements, musical (re)sound (Fig. 1). The SCC table is a repository for participants to draw from for musical inspiration and instrumentation/orchestration creative ideas, as well as a site to prompt critical dialogue about sound and its attributed meanings in participants’ lives.



(Fig. 1)

Below is an explanation of the 7 data points collected and shared on the SCC table:

1. **Sound** — participants are asked to upload ~ 5 to 7 sound clips (i.e. samples) per week during the study. Sounds should be between 7-25 seconds in length and should not include any personal and/or identifiable information, either of the participant or anyone else. Participants are expected to use their own recording devices (e.g. mobile phones, tablets, Zoom H1, Sony, Olympus, etc.). Most digital recording devices sample at a rate of 44.1 kHz and allow easy transfer and uploads of mp3 or wav files. If a participant does not own such a device, or needs a tutorial on how to use a device, they may reach out to the researcher(s) for assistance. It is possible that a device may be borrowed. However, if physical distancing is in place due to COVID-19 and a device cannot be safely provided or secured for use, then it is not possible to participate in this study.
2. **Sensation** — participants are asked to briefly describe their initial gut reaction to a sound encountered and recorded (e.g. laughter, startle, sad, disorientation, irritated, etc.)

3. **Space | Time** — participants are asked to state where they were physically located in space and time when the sound occurred. This does not mean their private home address or any other personal identifying information. Places such as: home, downtown, campus, grocery store, etc. will suffice as “space”, and morning, afternoon, twilight, dusk, will suffice as “time.”
4. **Source** — participants are asked to state the source of the sound they have recorded (e.g. train, kitchen sink, BLM protest, etc.)
5. **Significance | Context** — participants are asked to describe why they chose specific sounds to record and upload, and what meanings such sounds may have for them (e.g. a memory or recollection, a projection)
6. **Musical Aspects** — participants are asked to list any musical characteristics or elements sounds may possess (e.g. timbre, pitch, dynamics, etc.)
7. **Musical (Re)Sound** — participants are asked to consider and describe the orchestrative potential of sounds. In other words, how might sounds be used as “notes” and/or musical instruments?

Appendix L: Observation Protocol and Template

Title of the project: Sound Currents: Exploring Sound's Potential to Catalyze Creative Critical Consciousness in Adolescent Music Students and Undergraduate Music Education Majors

This study is interested in understanding ways participants creatively and critically reengage sounds encountered in their everyday experiences. As a Participant-Observer, I will be actively listening for how participants describe and ascribe meanings to sounds collected. I will also observe ways participants collectively reengage and reflect on sounds, specifically surveying for how they communicate (verbally or nonverbally) about a sound's meaning, and how such meanings may shift or be altered from one person to the next. The kinds of things I will be observing and describing include, but are not limited to: 1) participants' reasoning's behind their sound choices, 2) how sounds' meanings may change as participants share, discuss, and reinterpret their sounds, 3) how participants may connect sounds to issues pertinent to their lived experiences, and 4) how and in what ways sounds may facilitate creative critical engagement. I will follow Spradley (1980) and Schmidt's (2014) observation collection and analysis protocols, which suggest observing along a continuum: *descriptive*, *focused*, and *selective* observation. This will allow me the flexibility to be open to hearing anew each interaction with participants, and also the specificity of relevance to the research questions under investigation. I am interested in observing three primary areas: ecology, sound engagement, and sonic mapping. First, to get a general tone of the space and people. Second, to note how are they engaging (or not) in the study activities. Third, to witness if, when, how, and in what ways sonic material segues into wider discourse (e.g. individual-communal-social-topical). To aid my observation, I will keep field notes and at the end of each interaction with participants (e.g. Sound Session Workshop, Sound Walk, etc.), review and compile them into my researcher journal. In addition, the Sound Collection and Classification (SCC) table and participants' Sonic Narrative Journals (SNJ), as well as the multimodal and multimedia creative artefacts assembled during this study — Sound Mapping (SM), Sonic Score Visualization (SSV), and Sound Pieces (SP) — will be analyzed as observational data. (Pellegrino, 2014; Schmidt, 2014; Tobias, 2014).

Field Notes | Observation Sheet

Date:

Time:

Activity:

Number of Participants:

Descriptive space place people	Focused creative critical	Selective key notes to recall later
Feel (ambient energy):		
Hear (sonic interactions):		
See (physical interactions):		
Speculation (signs of wonder):		
Experimentation (risk-taking):		
Collaboration (ease, or no):		
Individual (self):		
Communal (family):		
Social (friends, classmates):		
Topical (local/world happenings):		

Anecdotal | Narrative Jots

Lingerings | Quandaries

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REFERENCES

Pellegrino, K. (2014). "Music-making as data" in (Ed. C. Conway) *The Oxford Handbook of Qualitative Research in American Music Education*, (307-324), Oxford University Press.

Schmidt, M. (2014). "Collecting and analyzing observation of music teaching and learning data" in (Ed. C. Conway) *The Oxford Handbook of Qualitative Research in American Music Education*, (227-249), Oxford University Press.

Spradley, James P. (1980). *Participant Observation*. New York: Holt, Rinehart and Winston.

Tobias, E. (2014). "Collecting, generating, and analyzing multimodal and multimedia data" in (Ed. C. Conway) *The Oxford Handbook of Qualitative Research in American Music Education*, (288-306), Oxford University Press.

Curriculum Vitae | jashen edwards

EDUCATION

PhD Music Education, Western University, London, ON Canada, 2023

M.A. Music Education, Northwestern University, Evanston, IL, 2017

B.A. Music, University of California, Berkeley, CA, 2012

RESEARCH INTERESTS

sonic lifeworld, creative critical pedagogy, improvisation, composition, Social Justice Arts Education (SJAE)

PUBLICATIONS

Article. 'Exploring Sonic Meaning and Embodiment in Human Cultural Transmission,' topic Songs and Signs: Interdisciplinary Perspectives on Cultural Transmission and Inheritance in Human and Nonhuman Animals, ed. Julia Hyland Bruno. *Frontiers in Culture and Communication*, Vol. 6, 20 May 2021, <https://doi.org/10.3389/fcomm.2021.671486>

Chapter. 'Improvisational Encounters with the Sonic Lifeworld,' in (Eds. D. Fischlin & M. Lamanno), *The Improviser's Classroom: Pedagogies of Adaptive Performance, Social Engagement, and Creative Practice*. Insubordinate Spaces Series. Temple University Press. Forthcoming, accepted.

Chapter. 'Composition, Policy and the Formation of Agency: Pathways in Teacher Education and K-16 Practice,' in (Ed. M. Kaschub). *The Oxford Handbook of Music Composition Pedagogy*. Forthcoming, accepted.

TEACHING EXPERIENCE

UNIVERSITY

Guest Presenter/Facilitator, "Sound Pedagogy in MusED", Augsburg University, 2022

Guest Presenter/Facilitator, "Sound Pedagogy in MusED", Western University, 2022

Adjunct, Designed & facilitated semester-long undergraduate MusED Technology course (3860B), Western University, 2021

Guest presenter, "Come All Ye" MUE Symposium, Dr. Jocelyn Armes & Dr. Michele Kaschub, University of Southern Maine, 2020

Guest presenter, Contemporary Issues in Music Education, Dr. Colleen Sears, TCNJ The College of New Jersey, 2020

Guest presenter, Contemporary Issues in Music Education, Dr. Colleen Sears, TCNJ The College of New Jersey, 2019

Guest facilitator, Group Improv/ co-comp sound sessions with first-year music education courses, Western University, 2019

Guest facilitator, Group Improv/ co-comp sound sessions with small/large ensembles, State College of Florida, 2018

Reader / Grader, Gender, Sexuality & Popular Music, Prof. C. Brunet, UC Berkeley 2015

Reader / Grader, Music in American Cultures, Prof. C. Brunet, UC Berkeley 2014

Reader / Grader, Music & Culture of Bali, Prof. L. Gold, UC Berkeley 2014

Guest Lecturer, Social -Political Theater & Opera UC Berkeley 2014

- Assisted undergraduate students in further developing their critical thinking, analysis, and writing skills
- Held individual meetings and mentoring sessions with undergraduates to assist in course content understanding
- Read, critiqued, and graded undergraduate papers, midterms, and final exams
- Prepared two-hour presentation, assigned readings, and facilitated group discussions

K-12

Ile Omode School Oakland, CA 2009-2014

Our Lady of the Visitation San Francisco, CA 2000-2003

- Designed and facilitated group improvisation and collaborative composition curricula
- Introduced general music theory curriculum and assessments
- Selected, rehearsed, and performed age-appropriate repertoire
- Conducted two concerts per school year featuring both choral and instrumental student-composed pieces

COMMUNITY MUSIC & SCHOOL PARTNERSHIPS

London Arts Council, London, ON, April - June 2019

- Co-facilitator of sound sessions for 300+ middle schoolers
- Designed group improv/co-comp soundscape sessions

École secondaire catholique Monseigneur-Bruyère, London, ON, April - June 2019

- Co-facilitator of sound sessions for 20 middle schoolers
- Designed group improv/co-comp soundscape sessions for Kiwanis Percussion Sculpture
- https://music.uwo.ca/news/2019/soundscape-composition-project-premiere_.html

Arts & Music Programs for Education in Detention Centers (AMPED) Chicago, IL 2015-2017

- Assistant Curriculum Specialist
- Co-designed and facilitated a hip-hop composition curriculum for incarcerated teens
- Worked with team of 11 mentors in preparing quarter-end "Listening Party"

QuerKlang - Experimentelles Komponieren in der Schule Berlin, Deutschland 2012-2013

- Guest undergraduate student assistant-teacher and program shadower
- Assisted in experimental composition activities with local high school students in Kreuzberg

KunstFestspiele Herren Hausen Hannover, Deutschland 2012

- Assistant facilitator
- Led outdoor soundscape composition workshops for children
- Provided support for original student compositions

Bayview Opera House San Francisco, CA

Boys & Girls Club of San Francisco San Francisco, CA

Hamilton House Family Homeless Shelter San Francisco, CA

- Designed composition/improvisation curriculum
- Introduced general music theory thru group musicking
- Facilitated recording and producing original student compositions

MUSIC DIRECTOR / CONDUCTOR / ASSISTANT CONDUCTOR

Burlingame High School Burlingame, CA

San Mateo High School San Mateo, CA

Deutscher Musik Verein San Francisco, CA

Stand for Children San Francisco, CA

Community Music Center Orchestra San Francisco, CA

- Rehearsed and conducted musical pit orchestra for: A Funny Thing Happened On the Way To The Forum, Into the Woods, Sweeney Todd (Sondheim), Cinderella, The Sound of Music (Rodgers & Hammerstein)
- Prepared concerts for local community and civic functions
- Assisted organizing an international youth orchestra celebration in Oaxaca, Mexico

COMPOSER

London Arts Council Art Walk | Original Score, London, Ontario Canada, 2021

I've Known Rivers for Soprano, Berlin, Deutschland 2014

C.H.A.N.G.E. - A Musical Drama, Berkeley, CA 2012

L'envoi for Chorus & Piano Quintet, Oakland, CA 2009

Splash Circus Troupe, Emeryville, CA 2005

INVITED GUEST

Guest Panelist for Thinking Spaces: The Improvisation Reading Group & Speaker Series Presents "Improvising Bodies - Sounding Creative Critical Practices in Education" sponsored by the International Institute for Critical Studies in Improvisation (IICSI), November, 22, 2019.

Emerging Scholar Participant for International Institute for Critical Studies in Improvisation (IICSI) Emerging Scholars Program, Guelph Jazz Festival, September 11-15, 2019.

PAPER PRESENTATION, PANEL, and WORKSHOPS

Paper. At the intersection of technology and voice: Making agency visible in music teacher education. Jashen Edwards and Patrick Schmidt. Queensland, Australia, July, 2022.

Paper. Exploring the sonic lifeworld of music undergraduates and high school music students: Catalyzing creative critical consciousness. Jashen Edwards. Queensland, Australia, July, 2022.

Symposia. Sounding (In)visible voices in music education: Recalibrating music “fundamentals.” Jashen Edwards (Co-chair), Patrick Schmidt (Co-chair), Jasmine Henry, Antía Gonzalez Ben, Rebecca Rinsema, Matthew Thibeault (Panelists). Queensland, Australia, July, 2022.

Paper. Re(commoning) musical creativity and imagination in the public space: Critical reflections from the Sound Sculpture Park Project. Jashen Edwards, Caroline Blumer Delazaro, Daniel Gardner, Alexandre von Wartburg, Kari Veblen. Queensland, Australia, July, 2022.

Paper. When words get in the way: Exploring the affordances of the term “music” in curriculum. Jashen Edwards and Rebecca Rinsema. International Society for the Philosophy of Music Education. June, 2022.

Paper. At the intersection of technology and voice: Making agency visible in music teacher education. Jashen Edwards and Patrick Schmidt. Mayday Colloquium, Windsor, ON Canada.

Workshop. Tuning into the Sonic Commons with an ‘Ear’ toward Equity and Diversity. European Association for Music in Schools. Freiburg University of Music, Freiburg, Germany, March, 2021.

Panel. (Re)hearing music education through the senses – Cross-disciplinary Creative Critical Approaches to Sound and Listening. Jashen Edwards, Rebecca Rinsema, Boni Wozolek, Patricia Green, Walter Gershon. International Society of Music Education. Sibelius Academy, Helsinki, Finland, August, 2020. (cancelled- COVID)

Workshop. Tuning into the Sonic Commons with an ‘Ear’ toward Equity and Diversity. Rebecca Rinsema & Jashen Edwards. International Society of Music Education. Sibelius Academy, Helsinki, Finland, August, 2020. (cancelled- COVID)

Workshop. Breaking Patterns and “Letting Go” Listening: Free Improvisation Towards a More Just Music Education. Walter Gershon & Jashen Edwards. International Society of Music Education. Sibelius Academy, Helsinki, Finland, August, 2020. (cancelled- COVID)

Paper. Diminishing Returns: Policy, Labor, and the Deconstruction of Music Education. Patrick Schmidt, Jashen Edwards, Patrick Feely. New Directions in Music Education Conference. Michigan State University, February, 2020.

Panel. Hip-Hop Speaks: Actions with Words. Patrick Cooper, James Gantt, Gonzalo Silva, Jashen Edwards. New Directions in Music Education Conference. Michigan State University, February, 2020.

Paper. (Re)sounding a sound approach to music education. Presentation at 12th Symposium on the Philosophy of Music Education. June 5-8. Western University, London, Ontario, Canada, June, 2019.

Paper. Sounding the school I'd like - Imagining the possibilities through creative musicking activities. Presentation at 27th EAS Conference / 7th European ISME Regional Conference. May 15-18. Malmö, Sweden, May, 2019.

Paper. The Wall Project - (Re)sounding the Radical Imagination Across Music Education. Presentation at Desert Skies Symposium. Arizona State University, Tempe, AZ, USA, February, 2019.

Paper. Just Another Brick in the Wall - Group Improvisation & Collaborative Composition as Progressive and Critical Pedagogy. Presentation at Progressive Methods in Popular Music Education Symposium. June 6-9. Don Wright Faculty of Music, Western University, London, Ontario, Canada, June, 2018.

Workshop. Improvisation - Creative & Collaborative Musicking. Erich Teichman & Jashen Edwards. MESA (Music Education Students' Association) Don Wright Faculty of Music, Western University, London, Ontario, Canada, January, 2018.

Paper. Composing within the confines of a Juvenile Youth Detention Center. In D. Camlin (Chair) Walking the Boundaries, Bridging the Gaps. Justin Zullo & Jashen Edwards (Maud Hickey). Symposium conducted at International Community Music Conference at Wilfrid Laurier University, Waterloo, Canada, May, 2017.

Paper. Mapping musical pedagogies in a Chicago juvenile detention center. Justin Zullo, Kerry Brown, & Jashen Edwards. In J. Zullo (Chair) Mapping musical pedagogies in a Chicago juvenile detention center. Symposium conducted at the 6th Annual National Conference on Higher Education in Prison, at Belmont University, Nashville, TN, USA, October, 2016.

Paper. A Two-Way Street: The Impact of Mentoring on Undergraduate College Mentors in a Juvenile Detention Facility. Maud Hickey, Mary Cohen, Jody Kerchner, K. Anderson. In M. Hickey (Chair) Prison contexts and music education: Levels of impact behind bars. Symposium conducted at the International Society for Music Education Conference, Glasgow, Scotland, July, 2016.

Paper. Community music in action: Composition and improvisation in the K-8 classroom and the fostering of cultural democracy. Community Music in Theorie and Praxis Internationa Tagung. Munich, Deutschland, November, 2015.

Paper. Composing C.H.A.N.G.E! - Education or entertainment? Reflections on musical theater and opera's social political role within the culture industrial complex. Paper presented at the 22nd Annual McNair Scholars Undergraduate Research Symposium. University of California, Berkeley, Berkeley, CA, August, 2012.

Paper. Music education and youth programs in the former GDR. Paper presented at the Youth & DDR course. Universität Potsdam, Potsdam Deutschland, May, 2011.

Paper. Music as window and mirror: Practicing composition based curriculum with inner city youth. Paper presented at the 11th Annual George A. Miller Scholar Program, University of California, Berkeley, Berkeley, CA, August, 2011.

ACADEMIC AWARDS

UC Berkeley Max Weinbach Musical Theater/Opera Prize 2011-12

The Osher Re-entry Scholarship 2011-12

Cal Leadership Award, University of California, Berkeley Alumni Association 2010-12

The Peralta Association of African American Affairs (PAAAA) Scholarship 2009

RESEARCH GRANTS AND FELLOWSHIPS

Northwestern Alumni Association Course Enhancement Grant (\$8,500) 2016-2017

Deutscher Akademischer Austauschdienst (DAAD) Study Grant (\$11,000) 2012-13

McNair Scholars Undergraduate Research Program (\$7,000) 2011-12

Education Abroad Program (EAP) Research Study Grant (\$1,000) 2011

George A. Miller Undergraduate Research Grant (\$7,000) 2009-10

LEADERSHIP ROLES

Sounds of life (SoL) founder / music director 2000-present

- Research, design, and facilitate group improvisation / composition curricula

Composing in the Classroom - Models & Designs for the Creative Music Teacher 2017

- Assistant workshop designer / co-facilitator

Oakland Drops Beats 2015

- Education conference organizer

Our Fertile Ground, Board Member 2009-2012

- Co-facilitated cross / intercultural composition projects w/ children in Cape Town South Africa

PROFESSIONAL AFFILIATIONS

Radio Western, Active board member, 2022

Boost Innovations, Member, 2020

San Francisco Symphony, Education/Outreach Fundraiser 2014-2015

McNair Scholars Program, Moderator for 22nd Annual Symposium 2014

McNair Scholars Program, Recruiter 2012

Deutscher Akademischer Austauschdienst (DAAD) Young Ambassador 2011-12

Arts Alliance Research Team 2011-12

S.A.G.E. Student Achievement Guided by Experience Program 2009-12