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PEDAGOGY OF SOUNDING: TUNING IN ART EDUCATION

A Dissertation in

Art Education

by

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ABSTRACT

In this practice-related study of Sounding Art Practice as Research (SAPAR), I conducted research on the creation, implementation, and study of a sounding art curriculum and how my pedagogy facilitated students' understandings of sound as ways of knowing. The virtual afterschool curriculum I designed and taught consisted of 10 weekly two-hour *sounding art* classes in which 14 high school students practiced the following sounding art methods: listening, recording, and producing. My sounding art curriculum is theoretically grounded in Murray Schafer's *tuning in* and his exploration of the relationship between humans and the sounds of their environments; and Stephen Feld's *acoustemology of place*, who studied the culture of places and analyzed the notion of sonic knowledge in consideration of places. My data consisted of sound visualizations, sound journals, conversations, fieldnotes, and high school student interviews. Findings from my analysis of students' soundscape albums revealed that students developed sonic knowledge of their surroundings by listening with awareness; understanding through awareness and memories; and giving meaning through memories to show a social and cultural relationship with their surroundings. In my dissertation, soundscape albums refer to an individual's sonic environment and everyday life experiences; and sounding art is an ontology through artistic expressions.

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GLOSSARY OF TERMS

Sounding Art: Maes & Leman (2017) explained that sounding art is an ontology that refers to artistic expressions that use sound as sound compositions, conceptual medium, and subject matter (e.g., sound meanings, sound definitions, and sound theories).

Sounding Art Curriculum: My sounding art curriculum consists of three units: listening, recording, and producing.

Sounding Art Practice: Sounding art practice, in my study, involves of listening, understanding, and giving meaning to the sounds of one's surroundings; knowing a social and cultural relationship between one's surroundings and self; creating soundscape albums through the methods of listening, recording, and producing.

Soundscape Albums: Soundscape albums consists of sound recordings/audio files/soundtracks of one's surroundings.

Listening: In my dissertation, I define listening as an experience of where I am physically or spiritually present, and aware of the sounds of my surroundings.

Hearing: In my dissertation, I clarify hearing as a mode of listening with awareness as in "I listen with awareness and therefore I hear."

Noise: In my dissertation, I associate noise with the screeching sounds of the metal of the orange table. At this point, noise becomes an indicator of my home. However, in Chapter Five: Listening and Noise, students identified the sounds of their surrounding as noise and described the noise in various categories as comforting and associated it with familiarity.

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CHAPTER ONE:THE ORANGE TABLE EFFECT

From my early years growing up in İzmir,¹ Turkey, I learned to negotiate with my environment's sounds. I was five years old when I noticed that I had a sensitivity to hearing particular sounds around me louder than other people. Growing up in Turkey came with a certain kind of infusion of sound and culture that was particular to my family and our place. For example, our hillside apartment in Göztepe, İzmir was located on the third floor, facing the street on one side and the alley on the other. From the street, I would hear the sounds of children playing; the church bells; the prayer calls from the mosque; the *simitçi*² strolling by selling the Turkish version of sesame bagels; and the street vendor pushing his wheelbarrow full of vegetables, singing "DOMATES, BİBER, PATLİCAN" (tomatoes, peppers, eggplants).³ From the alley, I would catch the private conversations of our neighbors from their balconies. Naturally, they could hear us as well, which is why my mother was always saying "SHH, SHHH!" to my sister and me, imploring us to keep quiet so the neighbors would not hear the noises of our conversations, playing, dancing, fighting, screaming, and all of the daily sounds of our lives as children.

¹İzmir is a metropolitan, third most populous city situated on the west coast of Turkey by the Aegean Sea. İzmir is a unique city—you'll *know* what I mean if you are from İzmir.

²Turkish gevrek (bagel) seller.

³Turkish singer Barış Manço was inspired by the vendor's singing and wrote a song about vegetables, referring to "Domates, Biber, Patlıcan" ("Tomato, Pepper, Eggplant").

The soundscapes of our apartment were specific to our place. For instance, from the time I was born, my parents provided mealtimes at four set times of the day. I would wait patiently for meals and look forward to our time sitting at the vintage orange retro table in our eat-in kitchen. *The Orange Table* (see my own sketch inspired from this memory in Figure 1) had a metal single-pedestal base with flared chrome legs. I particularly remember the sound of the metal pedestal's squeaks— a high-pitched screeching noise. As a child, I would try to get beyond the ethereal metallic sound that I knew I would never forget, vainly attempting to stay focused on the conversations my parents were having at the table. I don't recall the exact moment when I first noticed the unearthly noise of *The Orange Table*. However, this memorable object had significant implications for how noise would change the meaning of listening to the sounds of my surroundings.

Figure 1

The Orange Table, Ilayda Altuntas, 2020, Digital Sketch



Note. The scratchy nature of the sketch symbolizes the squeaking noise of the metal legs. The evenly spaced, uniformly composed dots symbolize the ambient sounds around the table. The sketch itself is a visual representation of the table.

The sound of my family's metal table had a recurring pattern each time someone reached toward its center to grab an item. Leaning my arm on the surface of the table, I confirmed how the sound was created, and I found that the metal's noise had a powerful

effect on me, which I now call *The Orange Table Effect*. When our arms were off the table, I could listen to the conversations from my family, as their voices (in Turkish) would rise undisturbed. However, when I heard the noise from the table, I couldn't concentrate on anything. I experienced that the sounds of my surroundings can become louder than conversation, and certain background noises commanded my attention and drown everything else out.

The noise of the table, bothersome to me, seemed to go unnoticed by my parents. Therefore, my parents and friends would often comment that I was too sensitive and that I should ignore the noise. They would say that if I didn't pay attention to these kinds of noises (which are part of the sounds of our daily activities), I wouldn't hear them, but I felt something would be lost in knowing the world around me, if I ignored the supposedly bothersome noises.

Thanks to *The Orange Table Effect* (a term that embodies an auditory occurrence of my personal account based on my experience of being disturbed by certain ambient noises), I accepted the bothersome noise and I have learned to listen and better understand the sounds in my environment. I was able to *tune in*, understand, and give meanings to the sounds of my surroundings. In this study, I present my experience in my sounding art practice to show a relationship between myself and the sounds of my past. I used sound as an art concept and medium to create a personal soundscape album which I call it a *sounding art*⁴ of The Orange Table Effect. The sounding art itself is an auditory

⁴Sounding art is a term coined by Cobussen et al. in 2017 (i.e., The Orange Table Effect is a sounding art because it's an artistic representation of the sounds of my surroundings growing up.)

representation of The Orange Table Effect, and in a way, it also represents my cultural background.

It is my firm belief that my cultural background has broadened the way I analyze the sounds around me ever since my childhood in İzmir when I first discovered The Orange Table Effect. As a child, I was immersed in the soundscapes of my everyday life. While certain sounds were simply part of the sonic ecological environment (i.e., urban noise), which enveloped me, other sounds (i.e., screeching noise of the table) put pressure on me. Some sounds were only oppressive at certain times. In particular, I remember playing in my room and being frustrated with the TV noise coming from the living room and my mother's clanging of the dishes in the kitchen. These sounds imposed a sense of insecurity in which I felt lost and doubtful towards my environment. Yet, over time, instead of avoiding these sounds, I grew an ability to tolerate them.

Although my sensitive hearing is sometimes perceived as problematic by people who witness my reactions towards certain sounds in my environment, I believe that it allows me to experience sounds and understand the world through my senses in a profound way. Today, I associate The Orange Table Effect with hearing and perceive it as a way to listen with awareness; understand and give meaning through awareness and memory;⁵ and therefore, know a relationship between myself and place.⁶

⁵ In my dissertation, I use memory as one's experience of the sounds with their past.

⁶ Drawing from the context of The Orange Table Effect, I use *place* as a term to refer to the sounds of one's surroundings.

For this dissertation, as an artist and art educator, I drew heavily upon the processes of sounding art⁷ as pedagogical explorations to cultivate an understanding of The Orange Table Effect through the practices of listening, recording, and producing to research sounding art as ways of knowing for art education curricula and practice-related art research. Cobussen et al. (2017) defines sounding art as an ontology which refers to artistic expressions that use sound as sound compositions, conceptual medium, and subject matter (e.g., sound meanings, sound definitions, and sound theories).

In what follows, I argue that listening to the sounds of my surrounding helped me understand how my artistic practice⁸ employs conceptions of place and self. By listening closely to sounds and giving positive meanings to noise, as I did with The Orange Table Effect, I developed ways to better understand my surroundings, which was the inspiration for the first unit of my sounding art curriculum, called “Listening.” In this way, The Orange Table Effect is the catalyst for my study. Feld (1996) writes that “sound is central to making sense, to knowing, to experiential truth” (p. 185). Similarly, I came to know my relationship⁹ between my home and self through the creation of The Orange Table Effect.

⁷See Cobussen et al. (2017), especially part 1 for an insightful definition of sounding art as an ontology that refers to artistic expressions.

⁸Listening, understanding, and giving meaning to the sounds of our surroundings.

⁹The relationship between my childhood home and self was infused with the soundmarks of the city of İzmir, the vendor’s singing from the street (with resemblances of the singer Baris Manco’s nostalgic sound piece “Domates, Biber, Patlican,” the sounds of my sister and me playing, screaming, and laughing. In The Orange Table Effect recording, I express the idea that the sounds of my childhood home (a particular place) can represent an individual’s social and cultural background to the extent that an individual’s identity can be recognized and characterized by their soundscapes.

What is Sounding Art?

Marcel Cobussen et al. (2017) developed pedagogical theories and tools for researchers and artists to further their explorations of sound and sound art practices by creating a concept called *sounding art*. “Sounding art is the soundscape that surrounds us at this very moment here at this square as a (human) composition and therefore as a potential example of sounding art” (Marcel Cobussen et al., 2017, p. 1). In precisely the same way, I define The Orange Table Effect as a form of sounding art because the drawing of the table, the memory of the table, the noise of the metal, and the soundscape album are all artistic expressions of the sounds of my surroundings growing up. Sounding art can be grounded in one or more of the following forms: sound art,¹⁰ music,¹¹ soundscape composition, context-based art, sound theories, and practices (Cobussen et al., 2017). More specifically, Cobussen et al. (2017) explained that sounding art is an ontology that refers to artistic expressions that use sound as sound compositions, conceptual medium, and subject matter (e.g., sound meanings, sound definitions, and sound theories). In summary, sounding art, as defined in this study, provides a specific sonic grammar of sounding art (such as listening exercises, listening to silence, noise, recording sampling, conversations/talks, soundscapes, and producing soundscape albums)

¹⁰ Peter Weibel (2019) explains that the term sound art goes back to Sound Art Foundation which is found in 1982 by William Hellerman—sound art uses sound as a medium of art and works with experimental music (or new music), sound sculptures and installations, sculptural musical instruments, acoustic installations etc.

¹¹ Philosopher Christoph Cox (2020) wrote that “sound art, and its inverse, the “musicomania” that would subsume all sonic art under the category of music, I contend that sound art constitutes a distinct field, one that partially overlaps with experimental...” (p.112).

to create a relationship between surroundings and *self*.¹² In this study, I investigate the sonic grammar of sounding art to learn and understand better soundscape compositions, sound recordings, and sound definitions.

Sounding Art as Art Practice

In *The Orange Table Effect*, I practiced sounding art to explore my relationship to my childhood home. I grounded my sounding art practices (listening, recording, producing) in the following forms of sounding art: soundscape composition, context-based art, sound theories, and art practices (Cobussen et al., 2017).

The Orange Table Effect, my sounding art made into a soundscape album and accessible online,¹³ is an example of how I listen, understand, and give meaning to the sounds of my environment. My sounding art, therefore, signifies my own act of *tuning in* (Schafer, 1977), which is a theory that explores listening¹⁴ to the soundscapes of your environment and understanding sounds by imbuing them with meaning. For example, Schafer explains how we give meaning to the sounds of the past that “thrust back into the wells of memory” (Schafer, 1977, loc. 3386), and through my own practice of listening, I understand and give meaning to the sounds of my childhood home.

¹² In my dissertation, *self* refers to an individual’s fundamental being that distinguishes them from others based on their individual and unique processes of listening, understanding, and giving meaning to the sounds of their surroundings. With that, an individual creates a relationship between their surroundings and self.

¹³ <https://soundcloud.com/sound-art-sound-installation/sets/the-orange-table-effect>

¹⁴ Schafer’s (1977) *tuning in* (an ear training method and a listening activity) is theorized from how musicians and orchestras tune into their instruments. For example, he explains that the first moment of an orchestra’s performance isn’t the performance itself it’s the tuning of their instruments. Before the first note is played, orchestra members focus on finding harmony with their instruments and with each other to create a collective sound. Schafer (1977) associates the analogy of musical tuning with ear-training (*tuning in*).

The Orange Table Effect recording also provides a concrete example of *acoustemology* (Feld, 1997), which theorizes “sound as way of knowing. In doing so, it inquires into what is knowable, and how it becomes known, through sound and listening” (Feld, 1997, p. 12). By defining the sounds of my childhood home as The Orange Table Effect, I give meaning not just to the screeching of the metal of the orange table, but to all the sounds of my environment growing up in İzmir, Turkey, such as the songs of the street vendors, the conversations of my parents, and so on. Along with these inspirations, I produced the sounds of my childhood home and created a soundscape album,¹⁵ which is a sounding art.

Sounding Art as Teaching Practice

In teaching my sounding art curriculum,¹⁶ I expanded upon my teaching practices through the experimental explorations and responses of sounding art with the use of the following: (a) Listening—learning about various ways of listening and hearing the sounds of places, (b) Recording— learning about various ways of recording and creating the sounds of places, and (c) Producing— sharing, making, composing soundscapes of the places.

Through the sounding art teaching practices of listening, recording, and producing (which leads to the making of a soundscape album), I explored how students experienced new and different ways of listening, understanding, and giving meaning to the sounds of

¹⁶ <https://www.tuningin.nyc/>

their surroundings. I applied Schafer's (1977) ear-training method¹⁷ to (a) the practice of listening, which invited students to express their own meanings of sound, noise, and rhythm; (b) the practice of recording, which engaged students with the characteristics of their place;¹⁸ and (c) the practice of producing, which led students to create soundscape albums of their place in a virtual classroom environment. As a result, students explored a relationship between their place and self that showed social and cultural indicators of their surroundings (Bauer, 2000; Waldock, 2016).

In this practice-related research of students' process of practicing listening, recording, and producing soundscape albums, I asked the following research questions:

1. How does a sounding art curriculum and pedagogy facilitate an understanding of sound as ways of *knowing*?
2. How do students listen, understand, and give meaning to the sounds of their surroundings?
3. How does a sounding art curriculum function in art education?

In order to answer the research questions above, I created sounding art and developed and taught a sounding art curriculum for an after-school online program from

¹⁷Schafer's ear-training method is about understanding the sounds of our environment. Ear-training method constructs sound exercises for acoustic knowledge, such as imitating the sound of objects. The ear cleaning exercises' goal is to learn how people behave with sounds and interpret sound. For example, in an exercise, Schafer asks a group of people who live in West Vancouver to estimate the number of seaplane flights from their houses. The group estimated 8 flight sounds per day on their first try, but the actual count was 65. The second time they tried, they estimated 16 sounds per day. In this exercise, Schafer writes that the experience of ear cleaning enhances a broader act of listening. I anticipate that sound pedagogy encourages critical thinking, promoting social consciousness among communities.

¹⁸Students' recording of the characteristic of their place was limited due to COVID-19 pandemic and lockdown.

February 11 to April 22, 2021. The program consisted of 10 online classes held once each week for two hours, during which time I taught, observed, participated, interviewed,¹⁹ and conversed with students. As a centerpiece to the curriculum, students participated in listening activities and defined their own meanings of sound and noise; recorded, collected, and made sounds of their places; and produced soundscapes using sampling, editing, and layering techniques working with the following software applications: *Audacity*, *GarageBand*, and *Logic Pro*.²⁰

Sequence of the Dissertation

The Orange Table Effect (an experience with the sounds of my childhood home) urged me to think about how sound can be a medium for research, art, and teaching practice. To achieve this, I re-created the sounds of The Orange Table Effect through awareness and memory, and explored the practices of listening, recording, and producing the sounds of my environment. As a result, I created a soundscape album²¹ to show my relationship between myself and my childhood home. In the making of my soundscape album, I explored how I listen, understand, and give meaning to the sounds of my surroundings growing up in İzmir, Turkey.

¹⁹ See Appendix D.

²⁰Students had access to a various kind of audio editing software programs. They chose to use the following software programs: (a) Audacity, one of the main free-to-use and open-source audio software program which works both for macOS and Windows, (b) GarageBand, a digital audio platform for macOS, and (c) Logic Pro another digital audio platform for macOS.

²¹In my dissertation I use the term “soundscape albums” in which it consists of soundscapes (sound recordings/soundtracks, singles— a collection of one or more singles that is streamable and can be downloaded audio file.

The same urge guided me directly to my practice-related²² research: the development of a sounding art curriculum in which I practiced the teaching of the three units (listening, recording, producing). In my sounding art curriculum students participated in the making of soundscape albums through the methods of listening, recording, and producing. Thus, students' soundscape albums²³ showed social and cultural relationships (Bauer, 2000; Waldock, 2017) between their surroundings and self.

In **Chapter Two: "Sound Epistemology,"** I propose an examination of the theoretical framework of The Orange Table Effect (as shown and explained in Figure 2). To achieve this, I provide background knowledge of sound theories to help situate three primary steps of sound as ways of knowing: listening, understanding, and giving meaning. Next, I explain how these steps lead to knowing and showing a social and cultural relationship between self and place. I support the theoretical framework of The Orange Table Effect using the theories of the tuning in as a way of listening to the sounds of our surroundings with trained ears (Schafer, 1977); *the ecology of sound* (Atkinson, 2007); *transducing sounds* to (Helmreich, 2007); and *panaudicon* (Rice, 2003) that explores different ways of listening and the presences of imposed sound being generally experienced in a negative way. Finally, I consider Feld's (1996) *acoustemology of place*, which studied the culture of places and analyzed the notion of sonic knowledge in consideration of places. I also introduce Powell's (2012) ethnographic study of taiko

²² See Chapter Two, especially the methodological framework (shown and explained in Figure 2 for an insightful explanation of practice-related research. Candy and Edmonds (2018) identify a new terminology called practice-related research because the terms are often overlapping and interlinked due to its multiple variants (i.e., practice-based research, practice as research, art practice as research etc.).

²³ Students' soundscape albums resulted from a variety of places, such as a basketball court, the street in front of a student's apartment, the family kitchen, and so on.

drumming concerning *sound-constructed identities*, as it positions the soundscape albums as reflections of social and cultural relationships between surroundings and self.

The methodology of my *sounding art practice as research* draws from (a) my sounding art practice and (b) my development of a sounding art teaching practice. In **Chapter Three: “The Making of Sounding Art,”** I write about the processes of my sounding art practice, how I produced the sounds of my childhood home and created a soundscape album. I explain how by listening, understanding, and giving meaning to the sounds of my surroundings lead me to know the social and cultural relationship between myself and childhood home. Thereupon, I provide the methodological framework of my study, method and data creation, data visualization analysis, and background knowledge of the research site and participants. In **Chapter Four: “The Teaching of Sounding Art,”** I show the creation; development; and teaching of my sounding art curriculum which consisted of three units (listening, recording, and producing). I present the unit plans and lesson plans of my sounding art curriculum and pedagogical approach and write about how a sounding art curriculum and pedagogy facilitate an understanding of sound as ways of knowing. In **Chapter Five: “Listening and Noise,”** I explain students’ experiences of listening, understanding, and giving meanings to the sounds of their places influence them to *know* about a social and cultural relationship between their surroundings and self. In **Chapter Six: “Rhythm,”** I write about students’ experiences of recording and producing the sounds of their places (the street, the basketball court, home, etc.) and discuss students’ ways of understanding and giving meaning to rhythm lead them to know a social and cultural relationship between their surroundings and self.

In **Chapter Seven: “Interpretations and Implications,”** I further discuss how students listened, understood, and gave meaning to the sounds of their surroundings through the soundscape albums. Finally, I discuss how a sounding art curriculum function in art education by proposing that students’ soundscape albums are sounding arts and sounding art practice as research.

CHAPTER TWO: SOUND EPISTEMOLOGY

My exploration of the sounds of my surroundings growing up in İzmir, Turkey, led me to examine the theoretical framework of The Orange Table Effect. The theoretical framework I created for my study consists of three primary steps (listening, understanding, and giving meaning). I propose that these steps lead to knowing a social and cultural relationship between self and place. My intention here is not to break down The Orange Table Effect into a sequence of events with one step following another, but for theoretical reasons, to describe the objectives and theories related to The Orange Table Effect. Theories I discuss in this chapter helped me understand how I might develop a sound epistemology with the three steps of listening, understanding, and giving meaning to the sounds of my surroundings through awareness and memory (sounds of the past). As a result of this theoretical examination, I explored these three steps about The Orange Table Effect that would not have been clear to me had I not conducted this research.

Sound as Ways of Knowing

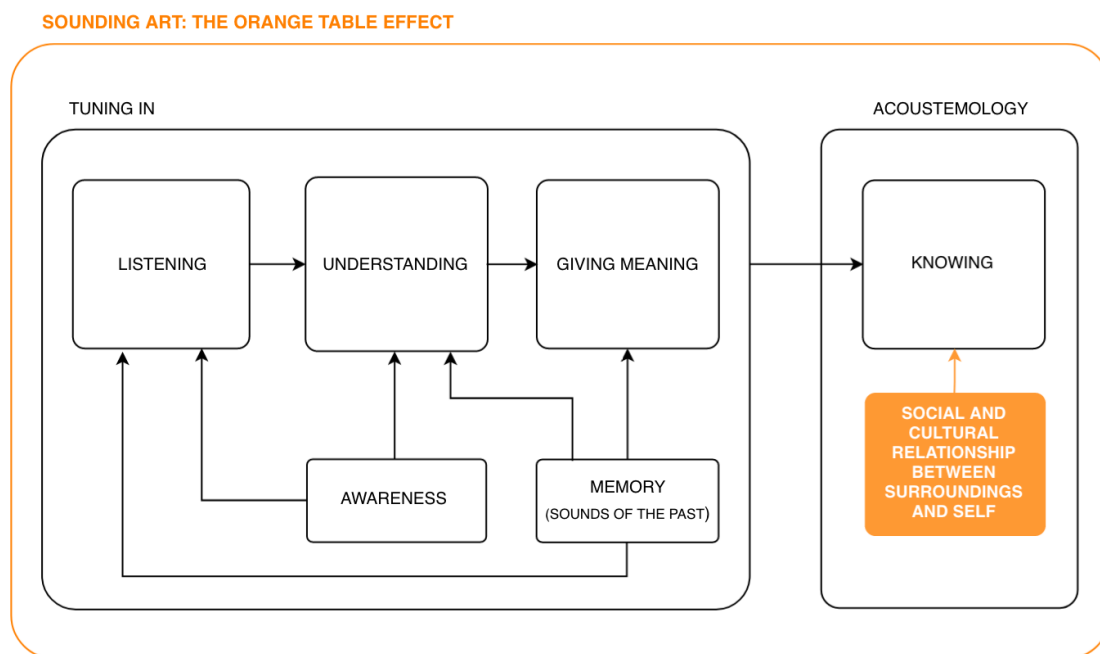
According to my description of The Orange Table Effect, I define **listening** as an experience where I am aware of the sounds of my surroundings. For me, listening²⁴ does

²⁴ Although Pierre Schaeffer (1966) argued differently in his symmetrical diagram of the four listening modes as the communication circuit.

not happen in the way in which I listen to only what interests me. Whether the sounds I am aware of are the vendors singing on the street or the metal screeching of The Orange Table, I believe that I have a heightened sense of hearing²⁵ and a heightened sense of awareness. Placing the theoretical framework of The Orange Table Effect on a flowchart²⁶ might work well to convey the theoretical framework and should provide a stronger sense of how I approach listening to the sounds of my environment (see Figure 2).

Figure 2

Conceptual Framework of The Orange Table Effect



²⁵ Here I define hearing as a mode of listening with awareness as in “I listen with awareness and therefore I hear.”

²⁶ I designed the flowchart to show a diagram of my theoretical framework’s process.

Note. The flowchart above shows how the theories of tuning in and acoustemology relate to The Orange Table Effect.

In the above visual map, I make the inquiry that I listen with awareness; understand through awareness and memory (experiences with the sounds of my past); and give meaning through memory to develop a knowledge of social and cultural relationship between my childhood home and self. Now that does not mean I listen to every sound in the world with awareness; therefore, I hear every sound. I acknowledge my privilege of being not deaf and hearing²⁷ the sounds of my surroundings aurally (Schaeffer, 1966). In order to achieve an even of a higher level of awareness of listening to the sounds of our surroundings, I borrow from Schafer's (1977) theory of the tuning in and his exploration of the relationship between humans and the sounds of their environments, which focuses on musical qualities of places through the practice of listening. The sounds of our surroundings have musical qualities (such as rhythm, sound, expression, etc.) and if an individual listens to the sounds of their surroundings with awareness, they can realize the potential of sounds for creative and aesthetic explorations (Schafer, 1977).

For similar reasons, I inquire that learning to listen with trained ears might lead one to listen with awareness. In a study, Schafer (1977) asked his students to listen to sounds of their surroundings and identify sounds that are in movement around them. While some students identified wind as a moving sound, others chose to identify various objects such as trees as moving sounds instead. Based on the students' responses, he

²⁷Kuppers (2014) developed The Observation Wheel that "allows one to slow down reading, to break up one's responses, and to experience one's reception more durational, unfolding, complex" (p. 171). Kuppers explains hearing as "not just an ableist term referring to a particular way of taking in information" (p. 172), but also as a metaphorical process.

wrote that “the trees shake their leaves, and the wind brushes them away” (Schafer, 1977, p. 483). I quote from Schafer to show how we listen, understand, and give meaning to the physical objects and properties of sound²⁸ in places. In order to describe the physical properties of sound, Schafer wrote about an example such as “the voices of the wind” (p. 451) and explained that the wind is a crucial element for human ears because it has an aural and tactile component for our senses, therefore, it can be visual too. In other words, the sound of the wind alone can bring a tactile feeling, even if we’re inside and not exposed to the wind at all. In my experience of The Orange Table Effect, the sound of the metal screeching gave me a sense of awareness (a tactile feeling) and led me to tune in to the sounds of my surroundings.

Schafer (1977) suggests that if an individual *tunes in* to the sounds of their environments, they will listen to their world’s experiences more fully (perhaps with more awareness). He argues that as humans we naturally block out most of the sounds around us. In order to have a meaningful listening experience,²⁹ or an experience where we pay attention to each sound meaningfully, Schafer conceptualizes the idea of tuning in as a way to train our ears. Since one could argue that all we listen to is meaningful, we listen to each sound meaningfully because, as humans, we tend to discriminate certain sounds.³⁰ I argue that the natural human tendency is to block out most of the sounds, and only focus on what is important at the moment. I find Schafer’s ear training is necessary, if we want

²⁸ Physical properties of sound create the soundscapes of an environment and part of a constant cycle of changes in places (Schafer, 1977).

²⁹ By having meaningful listening experience, I refer to a more focused experience of listening (with awareness) on how and why we listen, understand, and give meaning to the sound of our surroundings.

³⁰ An evolutionary experience that helps us survive because we can’t possibly pay attention to all the sounds in the world, but that is also why ear training is necessary.

to listen to sounds that we don't otherwise hear (sounds that we don't pay attention or sounds that we choose to intuitively ignore), or might otherwise escape us, we can use ear training. Schafer explains that tuning in (ear training) is a listening activity where an individual is fully immersed in their listening experiences and, as a result, they truly experience the sounds of their environments.

All this is not to say that ear training is the only approach to learn to listen to the sounds of surroundings with awareness. In that way, in my theoretical framework of The Orange Table Effect, I further support my proposed arguments using an anthropological perspective and theory, *transducing soundscapes* (Helmreich, 2007) which is a theory developed from *cybernetic sensibilities*³¹ as a way to engage with more than one immersive experience (Helmreich, 2007) in places. Cybernetic sensibility means to have the ability to listen to the sounds of an environment in a transducing way. The characteristics of transducing soundscapes are described in the following listening forms: cognitive, affective, and social affective because soundscapes create a sense of immersion and filled with unnoticed noise (Helmreich, 2007). Helmreich investigated the technical transformations of sound in a submarine called *Alvin* and identified the submarine's soundscapes as fully immersive. The environment of the submarine provided a sense of immersion because the Subs³² who worked in Alvin³³ explained that the

³¹ Cybernetic sensibility (listening transductively)—For Helmreich (2007) the soundscape would not exist without the machine (the submarine). The machine enables the transducing activity of sound. (i.e., the sounds that are collected in the exterior are transduced into the interior of the vessel.)

³² Employees of the submarine.

³³ The name of the submarine.

submarines could operate underwater, and due to their underwater capability, the soundscapes of a submarine are immersive. Alvin was fully immersed in the ocean. However, Helmreich (2007) stated that the *soundmarks*³⁴ of the submarine environment were technical and transformative, and due this, the subs weren't able to understand their environment comprehensively. Schafer (1977) argued that one of the aspects of understanding the sounds of our environment, is to respect the silence³⁵ and listen with trained ears. His ear-training method suggests that "all research into sound must conclude with silence" (Schafer, 1977, loc. 4944)—not in the harmful sense but in its positive form of realizing a perfect moment of silence fulfillment. He acknowledged the importance of silence due to the changing nature of the soundscapes of the environment.

Listening to sounds, however, is not the same thing as **understanding** them. I should emphasize that according to my description of *The Orange Table Effect*, I perceive understanding as a mode of hearing and learning through awareness. For instance, while Schafer (1977) explained that the ear must be trained to understand the sounds that are being listened to, Helmreich (2007) focused on immersive soundscapes and wrote about listening transductively as a way to show how we understand the sounds of our surroundings. The term transduction is a process in which sound changes as it travels across places (e.g., broadcasting). When sounds travel, their underlying substance transfers from one place to another. As sounds transfer, they go through a change from one form or condition into another. With such transitions, sound is transduced, and

³⁴ Soundmarks are signs consisting of a sound (e.g., soundmarks of your home may be the noise of a washing machine).

³⁵ Schafer (1977; 2009) refers to silence as a mode of listening—and it is not meant to force silence.

understood is "a term of art within the science of sound itself" (Novak & Sakakeeny, 2015, p. 223).

Helmreich supported his theory from ethnographic perspectives to also show a social relationship of the sonic environments. To help his readers, he associated immersive experiences similar to one of the ethnographic research methods— participant observation— and argued that anthropological formulations allow researchers to explore different ways of understanding the events and different ways of sensing and knowing a situation. He described that the participant observation is identical to transductive listening discussed that Alvin's immersive environment's sounds were limited because the Subs³⁶ could only hear the *incidental noises*,³⁷ and other sounds were not heard. Helmreich (2007) argued that immersive environments are limiting and disconcerted/bewildered/spaced-out and, therefore, not inclusive. He suggests that transductive listening offers a way to understand better how places and individuals are heard. In contrast to Schafer's (1977) theory of tuning in, Helmreich's argument is that people are subsequently immersed in the sounds of their close surroundings, and they naturally can't transduce the sounds outside of their immersed places.

Yet, while I associate Helmreich's (2007) discussions about transductive listening for a consideration on how to better understand the sounds of our surroundings through awareness, it is important to emphasize that the soundscape of the environments need more attention. More recently, Schafer (2009) shared additional perspectives about

³⁶ Submarine employees are called subs.

³⁷ Incidental noises are the interior sounds of the submarine machines.

listening and understanding the sounds of the environment in a short documentary film called *Listen*. By suggesting listening to the sounds of our surroundings carefully (in silence), Schafer (2009) engages viewers (and listeners) with a moment of interactive listening activity (another ear training method). He brings attention to urban noise and specifically asks his listeners to pay attention to the sounds of the objects in their surroundings. He argues that in the past (before technology existed), people exercised memory for sounds because there were no recordings, and today (due to the technological advancements), every sound is never heard again in the same way. However, in some ways, people became more perceptive, considerate, and moved by the sounds of their environment because “the sounds are living all the time around” (Listen, 2009, 3:20). He wrote that “the real paradox is that although sounds are pronounced in time, they are also erased by time” (p. 162). Schafer’s (2009) observation about the soundscapes of the environment changing over time supports the notion of hi-fi and lo-fi has changed from the 1970s to 2021, especially in New York City. For example, according to an article in the N.Y. Times, COVID-19’s impact on New York City’s soundscape was highly evident as people’s listening experiences were heightened and they tuned in to their surroundings differently (Bui & Badger, 2020). Another article about a case study on the changes of soundscapes of the cities in Frontiers discuss that the pandemic lockdown reduced the social and economic activities as well as the noise of the traffic from 2019 to 2020 (Lenzi, Sadaba & Lindborg, 2021).

In connection to the changing nature of the soundscapes of the environment, I propose that if the sounds of our surroundings are understood through awareness and memory (experiences with the sounds of the past), one can further expand their ability to

listen, understand, and give meaning to the sounds of their environment in a more unique and creative way. For example, in my experience of *The Orange Table Effect*, to understand the sounds from my past, I used memory,³⁸ and for sounds in the present, I used awareness. However, because the sounds of the environment are always changing (Schafer, 1977), it is also important to understand awareness and memory (experiences with the sounds of the past), from the perspectives of the ecology of noise in urban places (Atkinson, 2007). For example, his study showed that the domestic settings such as homes, neighborhoods, and office spaces had similarities between music and noise. If a neighbor is playing loud music in their apartment, another neighbor may understand music as noise. When an individual identifies music bothersome and noisy; music becomes a domesticated notion of urban place, and music represents “power and territory” (Atkinson, 2007, p. 1908). Therefore, because of the noisier city environment’s rise, city noises impact people's daily life experiences.

Atkinson’s (2007) argued that we are often not aware of the sounds in our immediate surroundings, but it’s important to be aware of these sounds because they are “a produce of how we live” (Atkinson, 2007, p. 1907), meaning that the way we listen and pay attention to our surroundings changes the way we produce our living experiences. While I agree with Atkinson’s descriptions of how we understand the sounds of our surroundings in urban places, I also acknowledge that there is more than one way of understanding the sounds of our surroundings through awareness. For

³⁸ Guzy’s (2017) work on re-creating the sounds of the past (audiation) support my proposed argument of understanding and giving meaning to the sounds of my surroundings through memory—I further discuss this with examples of artworks in Chapter Three.

instance, Waldock's (2016) ethnographic study about the transformation of the urban lives of Welsh people and their social and cultural experiences with the sounds of their surroundings (Welsh streets) is a sound-constructed identity example to argue that there is more than one way of understanding the sounds of our surroundings which leads me to further think about how individuals give meaning to the sounds of their surroundings. I believe that the way we understand and how we become aware of the sounds of our surroundings is a unique experience for an individual. An individual creates, cultivates, and produces how they listen based on their social and cultural knowledge, education, and experience.

In my experience of *The Orange Table Effect*, I **give meanings** to the sounds of my surroundings through memory (cultural and social experiences with the sounds of my past). Similarly, but for different purposes, Waldock (2016) made connections between sound marks, memory, place, and self. Waldock's (2016) approach focused on how Welsh people created social and cultural connections of the sounds of their surroundings through memory. She illustrated the social, cultural, and artistic work of Welsh people through their soundscape compositions. Waldock (2016) wrote that "sonic memories created by living in the place distilled their understanding of the sonic present" (p. 64). The artistic works of Welsh people were the creations of sound compositions from the daily life routines of the Welsh streets and their homes.

The experience of giving meaning to sounds of our surroundings happens differently for each individual as explained by Marinna Guzy (2017), a sound effects editor and artist. In her creative work, Guzy (2017) points out that the listening activities are related to communicating with our environment's sounds. Guzy (2017) used a sound

method called *audiation*,³⁹ an experience that allows one to understand the unique characterization of sounds in our environment. Audiation is a process in which the sounds of the past (memory) are re-created and placed in a present physical environment. Guzy described that through the audiation process, individuals communicate with their surroundings in their own way⁴⁰ and remembering the sounds of the past is resourceful to understand the culture of a place.

The theories and concepts I discussed above show that listening to the sounds of surroundings conclude a level of understanding and giving meaning to the sounds of surroundings through awareness and memory. Relatedly, I suggest that listening, understanding, and giving meaning to the sounds of surroundings may lead to knowing a social and cultural relationship between surroundings and self.

Knowing

In my flowchart of The Orange Table Effect, I situate *knowing* within Feld's (1996) concept of *acoustemology*⁴¹ (i.e., sound as a way of knowing) as part of the

³⁹ Guzy (2017) used audiation as a method to understand the soundscapes. She further explains that soundscapes are made of soundmarks and are found in unique places. Listening to soundscapes leads an individual to be in conversation with their environments and understand their community in a greater sense. She wrote that the experience of understanding the environment of individual communities through soundscapes is called "the acoustic ecology of a place" (Guzy, 2017, para. 8). For example, acoustic ecology of a place can teach us specific knowledge and characteristics of a place. If an environmental context gives us information about only a single sound source, we can't consider the environment's acoustic ecology as resilient and diverse.

⁴⁰ She wrote that the sounds of the past could be used as a medium to visualize the future. For a sound installation, Guzy developed a list of sounds that represented the particular activities of *The Owens-Thomas House's* rooms. The sonic representation of the historic soundscapes allowed visitors to experience the past and have them connect to new knowledge about The Owens-Thomas House.

⁴¹ The term is originally coined in 1992 by Stephen Feld. The term "conjoins "acoustics" and "epistemology" to theorize sound as a way of knowing" (Novak & Sakakeeny, 2015, p. 12).

theoretical approach of my research to support my proposed argument of how an individual might become aware of the social and cultural relationship between surroundings and self. Acoustemology theorizes sound as a way to know and understand the world around us, and “investigate sounding and listening as a knowing-in-action: a knowing-with and knowing through the audible” (Novak & Sakakeeny, 2015, p. 12). Feld theorized *sound as a way of knowing* from the Kaluli people’s living experiences with sound and place as the acoustemology of place. He had the following question in mind: “How is place sensed? How do we sense a place? How does our feeling of sensuality participate in naturalizing one’s sense of place?” (p. 91) then analyzed the notion of sonic sensibility in consideration of places and centered sound as a way to know the world of Kaluli people of Papua New Guinea through ethnographic studies. He found that the Kaluli people’s listening experiences were linked to knowing their language and surroundings. They relied not only on looking and seeing but also on listening and hearing; and they had a heightened sense of listening to the sounds of Bosavi (i.e., the forest, the waterfalls, and the birds). Thus, knowing through sound in Kaluli people’s lives showed social and cultural experiences of their lives. The sounds of the rainforest allowed Kaluli people to have an enhanced sense of hearing, an ability to deeply attune and adjust to their surroundings (Feld, 1996). The rainforest was the sounding world of Kaluli people. The sounds of the Bosavi rainforest region of Papua New Guinea functioned as a resource for Kaluli community. They created a connection between the forest and self by tracking the sounds of the rainforest; and used their sound knowledge to communicate with each other.

Likewise, Rice (2003) theorized the analogy of knowing with *panaudicon*,⁴² which focuses on the anthropology of sound and how an individual hears the sounds of their environment. Rice (2003) collected social data using ethnographic methodologies to emphasize the hospital's sounds and the patients' hearing and listening experiences. In his study, he described how the patients created a social relationship between the hospital and self through listening. He investigated the patients' listening experiences in an institutionalized place⁴³ in relation to the ways they gave meanings to the sounds of their surroundings.

Rice (2003) presented a two-way guide: live soundscapes and passive *soundselves*⁴⁴ to show how the patients gave meanings to the soundscapes of the hospital environment. The soundscape of the hospital (live soundscapes) created an impact on the patient's daily life experiences. Sometimes, the patients felt alienated. For example, one of the patients was highly sensitive towards the sounds of the television in his room because he was only able to hear the sounds of the television, he could not see it (an experience of the panaudicon). Rice (2003) emphasized that the patients had negative feelings towards certain sounds, and their feelings were similar to many others in the

⁴² The theory of panaudicon is grounded in Michel Foucault's (1975) theory of Panopticism and investigates the ways in which places are heard and controlled. Foucault's theory of the Panopticism is about the limits of visual qualities, political anatomy of place in institutionalized environments. Panopticism refers to the ways in which people are constantly surveilled in ways that they are not aware of, which leads to their acceptance of the situation as something that is normal. In Foucault's (1975) panopticism, there are limits of visual qualities in institutionalized environments (e.g., hospitals, schools). Foucault stated that the lack of visibility reinstates a system that operates on its own—he referred to panopticism, as a system which is based on a perpetual surveillance system controlled by one person.

⁴³ Rice (2003) refers to the Edinburgh Royal Infirmary as institutionalized.

⁴⁴ Soundselves—patients's creation of a relationship (based on the sounds) between the hospital and self.

hospital (an ability to see was crucial for patients to have a comfortable experience in their environment). He argued that patients' ways of listening to the sounds of their surroundings⁴⁵ showed a social and cultural relationship between the hospital and self because the patients were engaged in a level of active listening without seeing⁴⁶ and were engaged in their physical surroundings.

Rice's (2003) work considers Feld's (1996) acoustemology of place through and through listening as a way to show patients' experiences of the sounds of their surroundings. Rice's (2003) ethnographic work⁴⁷ documents knowledge about the culture of places (the hospital environment) and different ways of listening in places. In another ethnographic study, Powell (2015) considers Feld's (1997) work on place, the senses, and acoustemology to analyze the relationship between music (taiko drumming) and place (San Jose) to explore sound identities (the identity politics of Asian American communities). For example, in her ethnographic studies, she uses sound as a theoretical framework to explore performative experiences of taiko drumming. Based on her ethnographic study, Powell (2009; 2015) writes about an artistic performance practice,

⁴⁵ In the hospital, panaudicon emerged as the acoustics of force in which sound operated as an authoritative figure. Patients' stories and individual sounds of the hospital appeared to have cultural symbols. The cultural characters were part of the background noises of the hospital. the hospital's soundscapes became a symbol for patients, and certain sounds had precise meanings for individual patients.

⁴⁶ Rice argues that the patients of the hospital experienced a lack of visibility within their physical place. The patients were surveilled at all times, they "were seen but did not see" (Rice, 2003, p. 6) their environment fully, they were able to hear the sounds of their environment but did not feel heard. The correlation between seeing and not seeing, hearing, and not being heard is a restrictive component for any environment.

⁴⁷ Rice (2003) stated that the hospital environment formed a particular space associated with a distinct auditory experience that was monotonous for the patients. To this extend, he explained that the auditory experiences in the hospital environment had similar characteristics to the concept of surveillance because patients expressed that the hospital environment was restrictive and did not have any visual qualities. The rooms were structured in such a way so that the patients could only see the walls from their beds.

*taiko*⁴⁸ drumming, as the practice of sound knowledge and reflects upon sound-constructed identities. She writes that “taiko drumming has played a significant role in Asian American politics” (p. 114) and connects her theories with Feld’s (1990; 1996) acoustemology of as a way to highlight “the somatic experience of place as a means of composing identities” (p. 114).

Powell (2015) cites from Feld (1990; 1996) that acoustemology is “an exploration of sonic sensibilities, specifically of the ways in which sound is central to making sense, to knowing, to experiential truth” (p. 97). Drawing from her ethnographic study, Powell (2009) focuses on the aesthetic elements of taiko, and taiko drummer’s meaning making as well as her own identity to show the “politics of unknown ethnicity and racial amorphism in America” (Powell, 2009, p. 902). By drawing from both the performance and critical race theories, she identifies the pedagogical processes of taiko drumming such as “repetition, imitation, imagery, and slow-motion movement” (Powell, 2009, p. 915).

Furthermore, while Feld (1996) explained that acoustemology is a sensorial experience which is also a sensory way of listening (hearing) to the sounds of places (as a way of knowing sonic experiences and presences in our environment), Schafer’s (1977; 1992; 2009) work promoted the theory of listening in silence. Schafer believes that the method of ear cleaning (ear training through sound education and exercises) improves

⁴⁸ Taiko are a broad range of Japanese percussion instruments.

human's *sonological*⁴⁹ abilities and argued that the experience of ear cleaning enhances to a broader act of listening (tuning in).

Based on the theories that I have written above; I conclude by proposing that listening, understanding, and giving meaning to the sounds of our environment allows an individual to know about the self in relation to their world more fully. I associated my claim (as the start point) with Schafer's (1977) theory of the tuning in because of its expressive approach for learning (or a first step) to listen to the sounds of places. Schafer suggested that once the process of listening starts, we give sounds our own definitions and meanings based on what we think of which sounds matter or do not. I also point to the necessity of recognizing that there is more than one way to attend to the sounds of our surroundings. To show this, I identified how scholars developed theoretical strategies which helped me consider how in my study, I might further think of how students listen, understand, and give meaning to the sounds of their surroundings so that these steps lead them to know a social and/or cultural relationship between their place and self.

Given that, with the help of *The Orange Table Effect*, as well as the considerations of the theories of sound studies I discussed above, it is necessary that I ground my methodological approaches in practice-related research (Candy & Edmonds, 2018) so that I enrichen my own understanding of the research as a practitioner of art and educator. Since there are several variants of practice-related research,⁵⁰ I clarify which methodological terms I use for my study and show how my research and creative practice

⁴⁹ Sonology is the study of sound in a variety of disciplines—medicine, electronic music, psychoacoustic, etc.

⁵⁰ Candy & Edmonds (2018) identifies a new terminology called practice-related research because the terms are often overlapping and interlinked due to its multiple variants (i.e., practice-based research, practice as research, art practice as research etc.).

inform each other. In Chapter Three, I write a detailed description of the first part of the creative practice of my research, “The Making of Sounding Art” (a soundscape album of *The Orange Table Effect*) and the methodological framework of the study, and in Chapter Four, I provide an outline of the second part of the creative practice of my research, “Teaching of Sounding Art Curriculum” which I developed and taught online at Pratt Institute’s Center K12.

CHAPTER THREE: THE MAKING OF SOUNDING ART

In this chapter, I write about the first part of the creative practice of my research which I refer as “The Making of Sounding Art” to describe how the practice of sounding art⁵¹ (soundscape album of The Orange Table Effect) leads to transformation of ideas, new knowledge, and new works. Candy and Edmonds (2018) wrote that the “practice that is creative is characterized not only by a focus on creating something new but also by the way that the making process itself leads to a transformation in the ideas—which in turn leads to new works” (p. 64).

I support my epistemological orientation towards an understanding of producing qualitative data through an iterative cycle of practice-related research. To better explain my practice-related research methodology, I borrow from Hazel Smith and Roger T. Dean’s (2009) use of practice-related research which is an iterative cyclic web of (practice-led research and research-led practice). I do this by showing how I constructed my study’s data through the creation of new artworks, new knowledge, and new ideas (as I both produced data as well as collected it from students). What I discussed above supports the process of creating the Sounding Art Practice as Research (SAPAR) methodology in my dissertation. In what follows, I further clarify SAPAR through how arts-based researchers discuss a practice-related model of creative arts processes, which produce data. Furthermore, I elaborate on my use of practice-related research as the production of data with reference to the Smith and Dean’s (2009) cyclic web. However, I

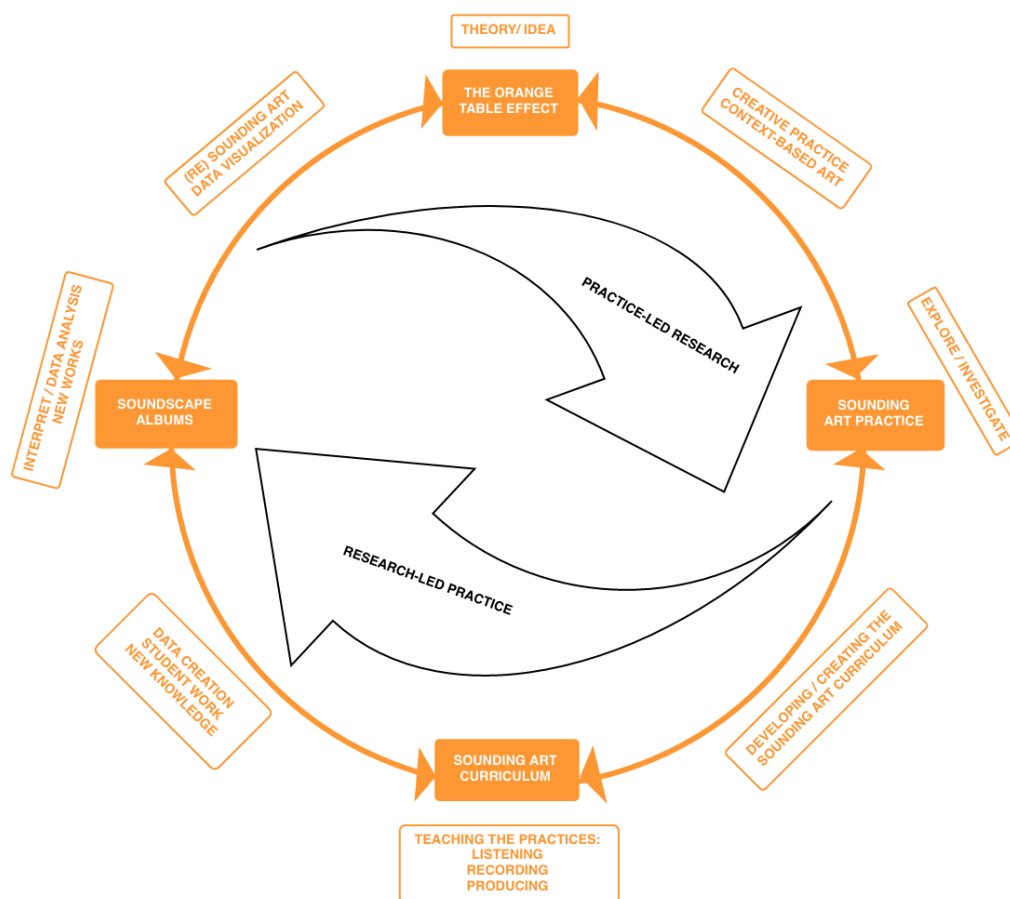
⁵¹ Soundscape album of The Orange Table Effect.

also delineate in Chapter Five: Listening and Noise and Chapter Six: Rhythm, how my collection of data derived from the students' creation of the sounding arts based on how they listen, understand, and give meanings to the sounds of their environments; and create a social and cultural relationship between their surroundings and self.

Inquiry: Sounding Art Practice as Research (SAPAR)

My creative process of practice-related research situates my study as arts-based research because I investigate and explore sounding art practice to develop and teach a sounding art curriculum. Moreover, I use creative and artistic methods (listening, recording, and producing) to learn, provide, and construct new knowledge.

Researchers and scholars engage in a variety of descriptions of practice-related research. For example, Sullivan (2009) explains this orientation by stating that “artists themselves have the capacity to explore and explain complex theoretical issues that can have significance across broad areas of knowledge” (p. 28). Moreover, Sullivan (2009) wrote that “practice-led research, as it is enacted, has a distinctive trajectory of inquiry that is best seen in the way that conceptions and constructions of new knowledge are framed” (p. 47). To achieve this, I borrow from Smith and Dean’s (2009) model of creative arts and research processes of (an iterative cycle of practice-led research and research-led practice) and created a new model of an iterative cycle of *Sounding Art Research Practice* (see Figure 5).

Figure 3*Iterative Cycle of Sounding Art Practice as Research (SAPAR)*

Note. The graphic above is re-adapted from Smith and Dean’s (2009) “iterative cyclic web of practice-led research and research-led practice” (p. 20) and illustrates the data creation processes of my practice-related research.

As shown in the center circle of the iterative cycle (colored in black), practice-led research and research-led practice approaches complement each other through the creative practices of the making of sounding art, the development, and the teaching of the sounding art curriculum. But more importantly, I would like to emphasize how and why I

use the term “data creation” to explain the processes of Sounding Art Practice as Research (the iterative process of practice-related research cycle). I clarify the reason I use the term “data creation” by describing my reflexive use of practice-led research and research-led practice.

Practice-led research is about leading to research understandings (Smith & Dean, 2003; 2009; Candy, 2006), and is explained that creative process of the making and teaching sounding art is a form of research and practice. Similarly, in my methodological approach, by using Smith and Dean’s (2009) term, practice-led research, I refer both to the work of sounding art as a form of research and to the creation of The Orange Table Effect (the theoretical framework and also the name of my soundscape album) “as generating insights which might then be theorized” (Smith & Dean, 2009, p. 7). Namely, in my dissertation, practice-led research is The Orange Table Effect (that is born with the screeching sound of the metal chrome legs of the table), the creative practice of making the soundscape album of The Orange Table Effect, and the exploration of the sounding art practice for sound as ways of knowing. The exploration stage is when I (as a researcher) enter into the processes of research-led practice—this is the when the creative practice leads to exploration state of research-led practice.

Research-led practice is “a terminology that compliments the practice-led and suggests that scholarly work can lead to creative works,” and in that way the use of research-led practice helped me as a researcher and practitioner (of art and teaching) to have the flexibility to direct my study “not only towards the elucidation of falsifiable

ideas⁵² but also towards the production of practical outcomes” (Smith & Dean, 2009, p. 7). Therefore, for my research, I engaged in two creative practices which are: (a) sounding art as art practice,⁵³ and (b) sounding art as teaching practice.⁵⁴

Above paragraphs, I discussed how practice-led research and research-led practice are different from one another but can also be both part of arts-based research (Biggs, 2009; Brown & Sorenson, 2009; Sullivan, 2009). More importantly, because “arts-based inquiry can help explore multiple, new, and diverse ways of understanding and living the world” (Finley, p. 71), I embraced the potential of *sounding art* to inform my pedagogical approaches. In this way, the sound methods of listening, recording, and producing functioned as arts-based and facilitated in both the making and teaching sounding art curriculum.

Given that, in my artistic creation of the soundscape album of The Orange Table Effect, I focused on the making processes of listening, recording, and producing to explore a social and cultural relationship between my childhood home and self. The Orange Table Effect also provides a concrete example of acoustemology (Feld, 1997), which theorizes “sound as ways of knowing, in doing so, it inquires into what is knowable, and how it becomes known, through sound and listening” (Feld, 1997, p. 12). By defining the sounds of my childhood home as The Orange Table Effect, I give meaning not just to the screeching of the metal of the orange table, but to all the sounds of my environment growing up in İzmir, Turkey, such as the songs of the street vendors,

⁵² Falsifiable ideas refer to data that has no validity. The validation occurs within the practice process itself.

⁵³ Soundscape album of The Orange Table Effect.

⁵⁴ <https://www.tuningin.nyc/>—online sound curriculum.

the conversations of my parents, and so on. Along with these inspirations, I produced the sounds of my childhood home and created a soundscape album.⁵⁵

Practicing Sounding Art

In order to best present my experiences with the sounds of my surroundings growing up in İzmir, Turkey in a sounding art, I first engaged in Schafer's (1977) method of tuning in which is a theory that explores listening to the soundscapes of your environment and understanding sounds by imbuing them with meaning. For example, Schafer explains how we give meaning to the sounds of the past that "thrust back into the wells of memory" (Schafer, 1977, loc. 3386), and through my own practice of listening to the sounds of my past, I was able to better understand and give meaning to the sounds of my childhood home. Next, in order to *tune in* to the sounds of my surroundings growing up in İzmir, Turkey, I identified the following soundmarks of my childhood home in the best way I can: the simitçi and the vendor's singing, children playing on the street, prayer call from the mosque, church bells, screeching sound of the metal, and conversations of my parents. Atkinson (2007) writes about soundmarks to understand the acoustic territories of urban noise.

Identifying the soundmarks of my childhood home helped me re-create the soundscapes of my childhood home. In my sounding art, I draw upon the processes of sound for methodological explorations to cultivate my understandings of sound as ways

⁵⁵ In my dissertation, soundscape albums refer to an individual's sonic environment and everyday life experiences; and sounding art is an ontology through artistic expressions. For example, I use "The Orange Table Effect" as the name of my soundscape album.

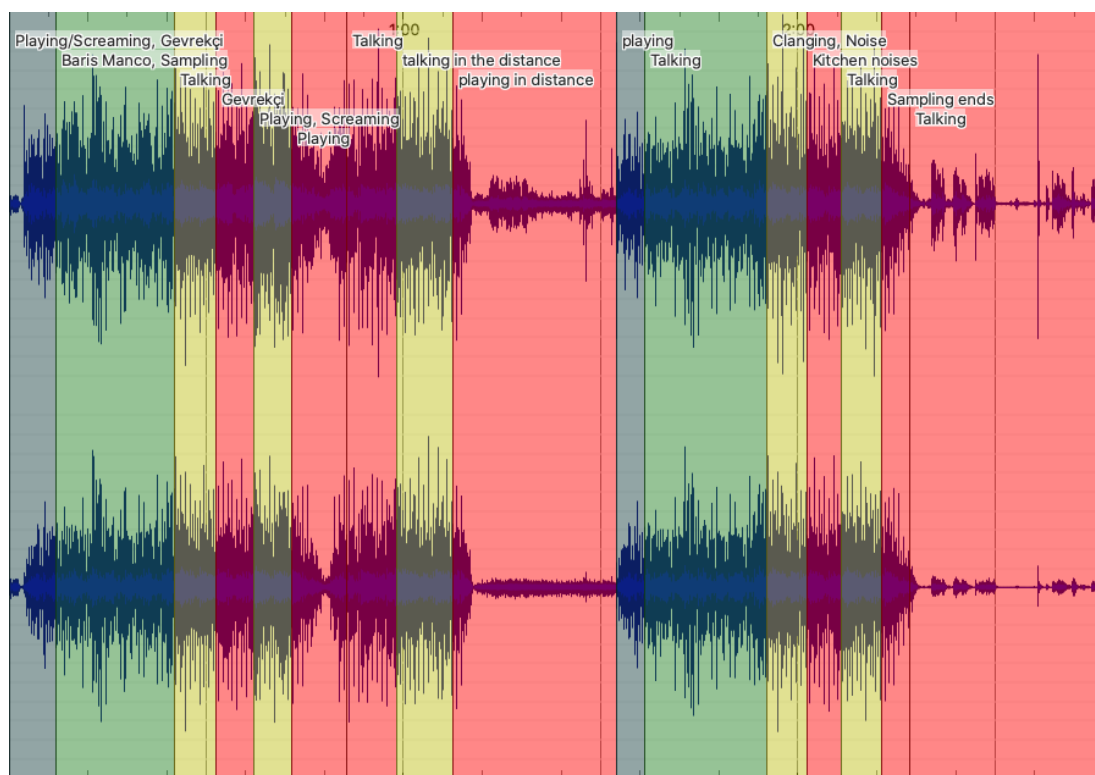
of knowing a social and cultural relationships between surroundings and self. The practice of my sounding art had three stages. First, I explored a theoretical relationship of how I listen, understand, and give meaning to the sounds of my childhood home (The Orange Table Effect). Second, I re-created the sounds of my childhood (Guzy, 2017). Since I wasn't able to record the sounds of my childhood from the 80s, I re-created the sounds of my past using an approach similar to *foley*⁵⁶ technique (Wood & Macdonald, 2019). I recorded the soundscapes of my sister's (who lives in Turkey) kitchen (through a phone call). To represent the sounds of vendor's singing, I found similar sound effects from YouTube and manipulated them in an open-source software (for recording and editing sounds program called Audacity and Garage Band). I used Bariş Manço's "Domates, Biber, Patlıcan" song as sampling. I applied editing techniques of copying, cutting, and fading in/out to create a final piece for my soundscape album. Finally, for an artistic visual presentation, I transformed the audio data using semantic music analysis in a program called Sonic Visualiser.⁵⁷ While doing so, I interpreted the soundmarks of my surrounding in five different segments and colors to support a visual representation of the social and cultural relationship of my surroundings growing up in İzmir (see Figure 4).

⁵⁶ Foley technique is used for matching sound effect for movies.

⁵⁷ Sonic Visualiser is a free, open-source program for viewing and exploring audio data for semantic music analysis and annotation.

Figure 4

Sound Visualization of the Soundscape Album of The Orange Table Effect



Note. The image above is processed through a Visualization plug-in called Segmentino.⁵⁸

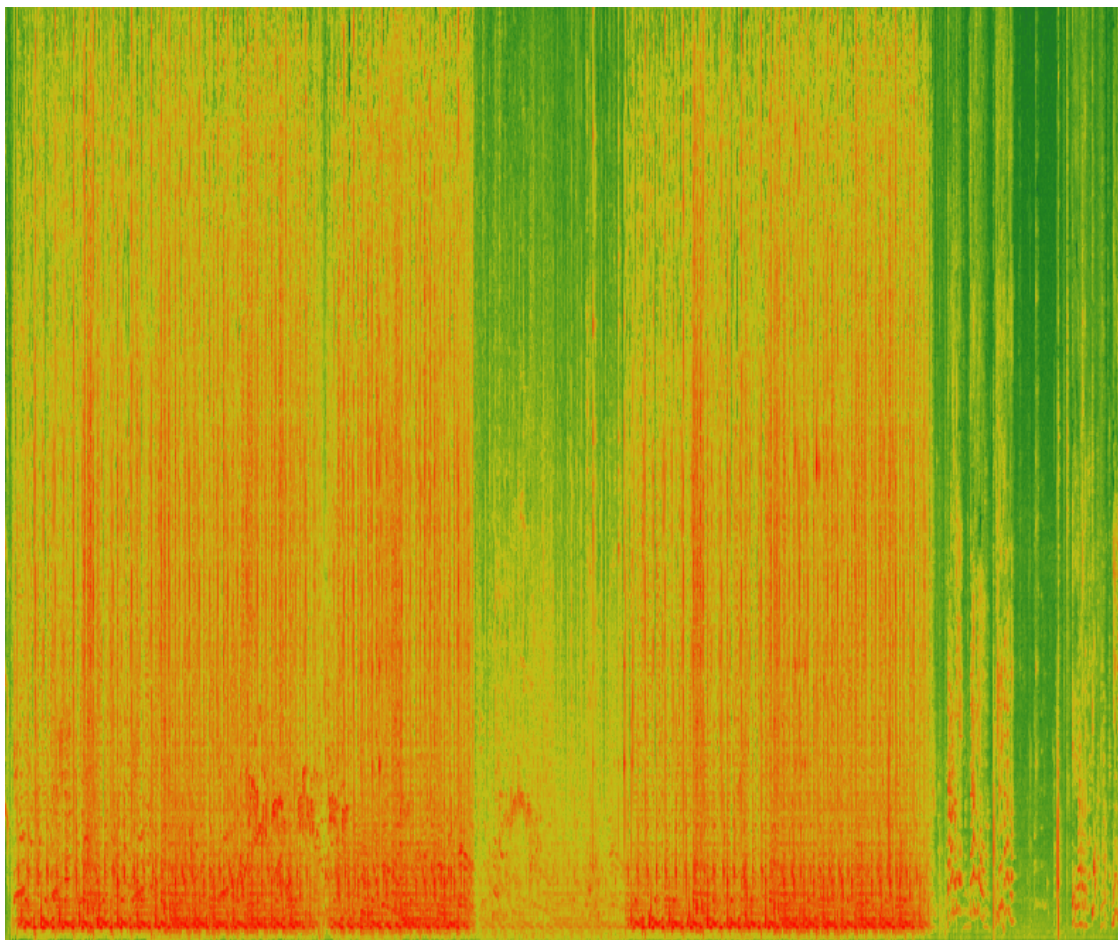
The chaotic nature of the recording symbolizes symbolize the noise of the street, conversations of my parents, song of the vendor and the Simitçi's singing.⁵⁹

⁵⁸ Segmentino is a plug-in created for automatic music structural segmentation—estimating segments pertaining to song parts (i.e., verse, chorus etc.)

⁵⁹ You can listen to The Orange Table Effect here: <https://soundcloud.com/sound-art-sound-installation/soundscape-album-of-the-orange-table-effect-i>

Figure 5

Sound Visualization of The Orange Table Effect in Spectrogram



Note. The spectrogram displays the loudness of the screeching sound of the Orange Table in orange color.

Throughout the methods of practicing the sounding art and with the help of The Orange Table Effect, I created my study's teaching methodological approach. Yet, as an artist practitioner and researcher, firstly, I used sound as a form of art to experiment and show myself to guide, develop, and teach my sounding art curriculum. Furthermore, I

also used this process to guide the analysis of the students' creation of the soundscape albums as for the "artist-researcher, 'data creation' becomes a crucial component in the research process" (Sullivan, 2009, p. 50). Although I focus on sound, by visualizing the soundscape album of *The Orange Table Effect*, I suggest that one sense cannot be separated from another, and the tendency to focus on one sense limits our ability to fully experience the world around us. Finally, I argue that since art education heavily relies on the visual senses (Duncum, 2004; 2012), engaging with the making of a sounding art (which also informs the teaching of a sounding art curriculum) that utilizes sound as an art form enriches my creative and artistic experiences in my study.

Methods and Data Creation

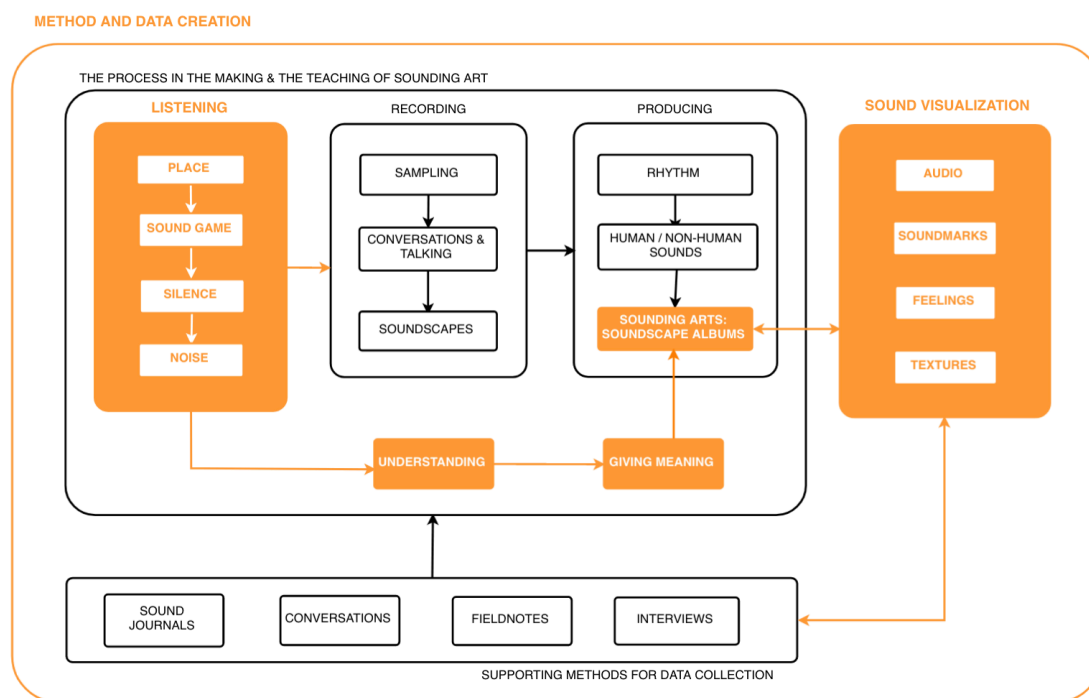
As I explained and demonstrated in the iterative cyclic web of the Sounding Art Practice as Research (an arts-based practice-related research), first, I created my teaching methods through the making of my sounding art (i.e., *The Orange Table Effect*) incorporating the theoretical conceptual framework of listening, understanding, and giving meaning—the conceptual framework. Second, I explored and investigated my sounding art practice by developing creative arts-based pedagogy of listening, recording, and producing, a process that compliments the first part of the iterative cycle, which is practice-led research. Third, I developed the sounding art curriculum and taught the arts-based methods of listening, recording, and producing. I then analyzed how students listened, understood, and gave meanings to the sounds of their surroundings.

In addition, to develop the findings of my study, I used qualitative research methods such as sound journals, fieldnotes, conversations, and interview processes for

data collection, which compliments the second step of the iterative cycle, research-led practice. Through my sounding art practice as a conceptual framework for curriculum and pedagogy development and implementation, I applied the same framework to analyze students' listening, understanding, giving meanings to, and expressing their own definitions of sound from their surroundings (see Figure 6).

Figure 6

The Curriculum and Pedagogical Process to Generate Student Data in Relation to Analysis of their Listening, Understanding, and Giving Meaning to Sounds of their Surroundings



Note. The flowchart above displays the methods of two practices coming together to collect and analyze data in this study from sound journals, conversations, fieldnotes,

interviews, and the students' sounding art soundscape albums. My teaching of sounding art is discussed in Chapter Four. The sections colored in orange indicates how the theoretical framework of The Orange Table Effect is integral to data collection and analysis.

Interpretation and Data Analysis through Sound Visualization, Soundmarks, and Sensory Data

The data of my study consisted of how students followed the three steps of listening, understanding, and giving meaning to the sounds of their surroundings, and the students' processes of creating their sounding arts (soundscape albums). I interpreted my study's data using SAPAR's cyclic web. I analyzed data from the students' processes of the making of their sounding arts, and the teaching of the sounding art curriculum (supported with additional methods such as sound journals, conversations, and fieldnotes). Next, I visualized students' sound recordings from their soundscape albums. I visualized the students' responses of the soundmarks of their surroundings, their feelings of the sounds and textures of the sounds as indicators of their social and cultural ways of knowing. Finally, as part of the cyclic web of SAPAR, and to better understand and describe the social and cultural relations of surroundings and self, I also visually analyzed the making of my sounding art (i.e., my soundscape album of The Orange Table Effect). Students, in my study, identified and recorded the sounds of their surroundings, manipulated the audio files, and created songs for their soundscape albums. Then, I analyzed students' audio files through sound visualization to communicate students' creation of data in a visual form.

Identifying soundmarks from the environment transforms ideas for sonic ecology (Atkinson, 2007). Atkinson studied specific sound patterns from urban places to explore the relationship between noise and sound. Atkinson argued that the awareness of soundscapes in cities play a vital role in clarifying our understanding of acousmatic sources. Moreover, according to Atkinson (2007), by recognizing the soundmarks of a place, an individual notices that the sound events are disposed to their place and space.

My study builds on Gershon's (2018) study, which made connections of "embodied educational systems of meaning" (p. 67) through sensory experiences. For example, he demonstrated the meaning of embodied knowledge with a collection of sound recordings from a group of students in 5th grade. The sound recordings of the 5th graders presented their experiences from a sensory walk in the Cuyahoga Valley National Park. Gershon (2018) stated that the interpretations of sound recordings through a sensory walk in the park showed correlations of embodied knowledge. In my study, students provided a list of soundmarks in their sound journals, and I created a complete list of soundmarks provided by all the students. I then grouped the soundmarks into categories to show the patterns in the data. Using sensory experiences to freely listen, record, and produce soundscapes tuned in allowed students to experience the daily sounds of their environments in a new and inclusive way (Pink, 2015).

Qualitative research studies involve observation, fieldnotes, and interviews with participants so that researchers gain a better understanding of the activities of individuals' daily life experiences (Spradley, 1980; Hammersley & Atkinson, 1995). I analyzed

students' interpretations⁶⁰ of the sounds of their surroundings that they recorded in their sound journals; I used their sound art creation processes (listening, recording, and producing) to understand how they applied their aesthetic knowledge to sound artworks; I utilized classroom conversations to engage with the students who participated in this study and learn about their opinions and experiences about sound and noise; I kept daily fieldnotes to record my teaching experiences; and I conducted interviews⁶¹ to receive feedback about the context of the sound curriculum and learn more about the students' experiences of listening, recording, and producing soundscapes. I supported the conversations and interviews with recorded Zoom teaching sessions.

Through the teaching collection materials, I discussed above, I consider sound and noise as important concepts to understand the processes of listening, recording, and producing the soundscapes of places. I use these concepts and methods as curricular tools in my sound art curriculum to engage students in learning sound art theories, concepts, and practices. The data analysis illustrates the students' interpretations and observations of the sounds of their surroundings.

In my teacher-researcher role, I paid particular attention on how I provided classroom instruction and questions to students so that I can accurately convey students' unique perspectives. For example, one of the arts-based research evaluation criteria that Keifer-Boyd (2011) suggested is *credibility*.⁶² The credibility appeared in sound

⁶⁰ For IRB purposes and to protect both Pratt Institute's and students' rights, I changed the name of the students (see Appendix A).

⁶¹ See Appendix D.

⁶² I recognize that I require a keen understanding of the following evaluation criteria of arts-based research: *credibility*, *dependability*, *confirmability*, and *transferability* (Keifer-Boyd, 2011). Although I considered

curriculum as ways in which I prevented sharing my personal opinions with students. The ongoing classroom dialogues and discussions clarified an organic research process because students freely expressed their own unique reflections about the objectives of each lesson.

My data analysis involved discussions on how students defined sound, noise and rhythm and created soundscapes using the listening, recording, and producing methods. Using the theories of tuning in and acoustemology of place, my sound curriculum considered that the sounds of our surroundings shape our experiences of life. The students learned to distinguish noise, rhythm from other sounds and learned new ways to create sounding artworks (sound recordings) through the following teaching methods: listening, recording, and producing.

Students' learning and teaching experiences were also increased through media and technology, and my practice-related research (Sounding Art Practice as Research) was also intensified by the virtual fields' experiences (Hine, 2000; Roberts, 2018; Wittel, 2000). Students' experiences of creating soundscapes happened throughout a virtual instructional setting. The WebQuest⁶³ platform I designed allowed access of resources and instructions available for students and myself. I familiarized myself with Zoom's advanced settings and resources to help myself guide secure and safe sessions to Pratt's

these criteria in my teacher-researcher role, I also acknowledged that my practice-related study (Sounding Art Practice as Research) has "the potential for the emerging paradigm of arts-based research to generate new curriculum ideas for general education practices (McNiff 2008). Arts-based research becomes arts-based educational research, a tool for developing educational programs" (Rolling, 2010, pp. 103-104). For example, students' ways of listening, understanding, and giving meaning to the sounds of their environment through their engagement of listening, recording, and producing practices showed *credibility*. Through these practices, students expressed knowledge about their relationship of place and self.

⁶³www.tuningin.nyc

students. Because virtual networks are somewhat infinite; and they provide an open and dynamic structure for research (Wittel, 2000; Kendall, 1998), I gave all instructions through Zoom. For example, as part of the Sampling Sounds lesson, students used the Internet to find sound effects that they couldn't record from their places. They converted YouTube video files into .mp3 (audio file) formats using a random video converter website. They then opened these files in Audacity and GarageBand to edit and produce their final pieces.

Teaching virtually through learning platforms such as Zoom presented challenges. As scholars and educators, we cannot demand students to keep their cameras on all the time. However, I encouraged them to turn their cameras on for the collaboration of artmaking, sharing reflections, and participation. Some students kept their cameras and microphones on, while others chose to keep them off and instead participated in class discussions via the chat box of Zoom.

I analyzed students' explorations of using the sound techniques of listening, recording, and producing to create soundscapes. For example, during the course, students participated in class conversations, defined their own meanings of sound and noise, identified the sounds of their place, and created sound art pieces using a wide range of materials, including string, wire, mini-electric motors, rubber bands, and clay. More importantly, I analyzed how students chose a place, made a list of the sounds of their surroundings; how they identified and understood noise, rhythm, and sound; recorded the sounds of their surroundings using their smartphones; and produced soundscapes compositions in relationship to self and place.

Sound Journals

Throughout the course, students took notes in their sound journals. I used some of the students' journals for data analysis to help situate their descriptions of the individual sound profiles in their environment. Inspired by Sara Mansfield Taber's (2018) note-taking techniques in journals, I asked students to use figurative language to describe the sounds of their places. Students wrote about their reflections and sound experiences, and they created sketches based on their thoughts about the texture of the sounds. They also described what they experienced through the sounds of places, and their notes depicted features of their chosen places. At the end of each session, students took a photo of their reflections and shared their images via email. In all of these ways, the sound journals showed the students' experience of listening to the sounds of their environments. Moreover, students shared their sensory knowledge of the sounds from their surroundings in their sound journals. During Lesson 2: Guess the Sound Game, as part of a listening exercise, I created an interactive game-based online interview and gathered the following responses from students. I adapted the online interview questions using Taber's (2018) method of the use of senses, so that I learn the peculiarities of students' experiences with the sounds of their surroundings.⁶⁴

In my data analysis, I review students' soundmarks of places from their sound journals to analyze how students listen, understand, and give meanings to the sounds of their places. Soundmarks make up the soundscapes and soundscapes are composed of the

⁶⁴See Figure 14 in Chapter Four for a more detailed analysis.

soundmarks (Guzy, 2017; Schafer, 1977). To understand how soundmarks make a place different than any other place, I asked students to identify the soundmarks and record the sounds of their place.

Fieldnotes

I use an ethnographically informed (inspired) method of writing fieldnotes as a process to keep data of what I “have seen, heard, and experienced in the field” (Emerson, 2011, p. 21). Through the fieldnotes (jottings), I encounter my teaching experiences to better respond and intuitively evaluate the students’ listening, recording, and producing processes. As I instructed and participated in the teaching activity, I jotted notes so that I can remember what is important to further evaluate. Emerson (2011) stated that researchers “should take note of their initial impressions” (p. 23), and these impressions consist of elements of senses such as the sounds, looks and the feelings of a place. Similarly, using my own personal sense of what is important, anticipated, and unanticipated (e.g., incidents, students’ impressions, and interactions), I identified what instructional approaches are beneficial for students’ learning needs when teaching virtually. Using the fieldnotes as part of the analysis of my study, I examine how the nature of the video conference environment has both positive and negative implications and limiting to transform instructional resources to meet the students’ learning needs.

Conversations and Interviews

I facilitated conversations to generate data construction process as well as to engage and get to know my students, and learn about their experiences of listening,

recording, and producing soundscapes from their places. Steinar Kvale (1996) identifies two forms of conversations: everyday conversations and professional conversations. I also used everyday conversations as a method to obtain students' descriptions of sounds of places of their places. Next, I interpreted students' meanings of listening, recording, and producing the soundscapes of their places based on their responses. I acknowledged the role of being a *researcher teacher* by teaching an exploratory sound art curriculum to high school students. Throughout my teaching of the sounding art curriculum, I used Steinar Kvale's (1996) method of conversation as research and took the role of a *researcher teacher* to engage in dialogues about the sounds of daily lives of the students. Through this approach, I studied students' meanings and definitions of sound from their surroundings; engaged in listening, recording, and producing practices with students; and asked questions to inform my pedagogical approach.

Adapted from Kvale's methods (1996), I interviewed students, and focused on their descriptions of the sound events of their place to understand and interpret the composed soundscapes. I interviewed each student on a one-on-one basis for 30-40 minutes. Using Kvale's (1996) method of structuring questions, I introduced students with an additional topic on listening: Listening to Systems: Rhythmanalysis: A Way of Mediating Urban Perception with One's Physical Presence. Start with listening to your body, learning rhythm from it to appreciate the external rhythms. Rhythmanalysis is a way to approach to our environment like a physician would, listening for rhythm, or arrhythmia (Lefebvre, 1992; Mattern, 2020). I brainstormed ideas about this approach with students and asked students how do they think they would apply it to their daily sound and life experiences.

Through the data creation methods, I discussed above, I investigated students processes of listening, understanding, and giving meaning to the sounds of their surroundings. I also used these methods as curricular tools in the teaching of my sounding art curriculum to engage students in creating soundscape albums. As shown in above visual representations, the data analysis of the study illustrates the students' interpretations and observations of the sounds of their surroundings.

In addition, in my practice of teaching the sounding art curriculum, I participated in reflexive praxis while observing remotely (Hammersley and Atkinson, 1995; Maxwell, 2013). Reflexive praxis requires a keen awareness of the study through all the steps of the research. Taking the role of a participant observer (via Zoom) allowed me to participate in my study by (a) making a sounding art and (b) teaching the sounding art curriculum. Through reflexive analysis between the two practices, I justified the findings of my research. Reflexive interim analysis helped me to build relationships with students. To say the least, in the next chapter, I write in detail about the three practices of sounding art curriculum: (a) listening, (b) recording, and (c) producing to show the objectives of each learning segment, the steps students followed, the art students explored, the online curricular tools the students participated, and the online curriculum itself.

CHAPTER FOUR:

THE TEACHING OF SOUNDING ART CURRICULUM

The purpose of Chapter Four is to provide a narrative that summarizes students' learning and making sounding art processes in my online after-school class at Pratt Institute, Center for Art, Design, and Community for K-12. It is also to show how students interpreted, developed, and related to the works of sounding art from social and cultural perspectives of their surroundings. Throughout the chapter, I provide a detailed description of each learning segment by illustrating students' steps to listen, record and produce the soundscapes of their surroundings.

In what follows, I write about the sounding art curriculum's steps, processes, and development. First, I explain how and why I chose my research site. Next, I illustrate the lessons of the three-unit plans⁶⁵ (a total of ten lessons) and identify the specific learning objectives each lesson.⁶⁶ Third, I describe the learning segments of the sounding art curriculum through the descriptions of the central focus and purpose of the content I taught during each lesson. I further explain how the standards and objectives within the learning segment support the development of student's abilities to create, present, or respond to visual art, which are the categories of the National Core Art Standards (2016) in the visual arts.

⁶⁵For the methodological purposes of the study, from here on, I will refer to the three-unit plans as methods (of listening, recording, and producing).

⁶⁶ <https://www.tuningin.nyc/>

Pratt Institute, Center for Art, Design, and Community for K-12

As the result of the pandemic and the hybrid model of teaching and learning approaches in schools, my research study took the shape of a virtual model of teaching sound curriculum for art education. In the implementation and creation of a sound art and sound installation course, I collaborated with Daniel Bergman, the director of Pratt Institute's Center for Art, Design, and Community Engagement K-12. Pratt's programs consist of four on-campus programs: Saturday Art School, Design Initiative for Community Empowerment (DICE), Pratt Young Scholars, and Summer Scholars. Their programs offer a venue to support creativity, collaboration, and community-based education to the K-12 community. In addition to Pratt's four on-campus programs, they added a new program for the purpose of my research, which they called "Sound Art and Sound Installation."

Participants and Enrollment

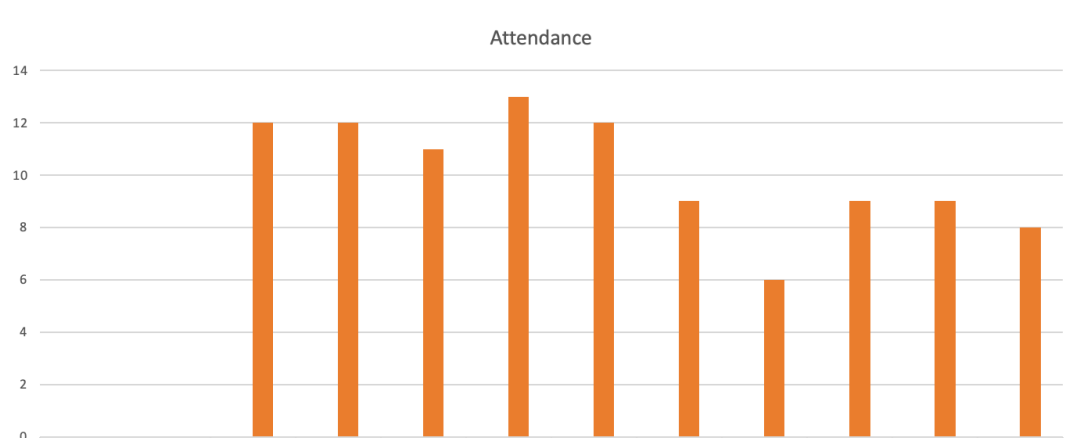
Participants were students⁶⁷ attending New York City high schools; who demonstrated interest in art and design; who obtained their art teacher's or school administrator's recommendation on Pratt's registration form (See Appendix F). To participate in online classes, all participants were required to have access to a laptop computer, Chromebook or tablet with a built-in camera and microphone to record sounds; a stable internet connection; ability to run GarageBand, Wave Pad, or Audacity; ability to participate in class sessions held on Zoom. Enrollment for the Sound Art and Sound

⁶⁷ For IRB purposes and to protect both Pratt Institute's and students' rights, I changed the name of the students (see Appendix A, B, and C).

Installation classes for the Spring 2021 semester began on December 14; classes ran from February 11 – April 22, 2021; and met on Thursdays from 4:30 – 6:30 PM. A total of 15 students enrolled in class, one never showed up, and the overall attendance fluctuated over time (see Figure 7).

Figure 7

Students' Attendance



Note. The chart above displays the attendance fluctuation in bars (each bar presents the number of attendances in each class). Numbers on the left indicate how many students were present in each class.

Sounding Art Curriculum: www.tuningin.nyc

In my teaching practice of sounding art, I developed an online curriculum called “Pedagogy of Sounding: Tuning in Art Education,” a teaching resource that focuses on experiencing, creating, and composing soundscapes of environments. I remotely (online) investigated the following learning processes implied by my study’s research questions:

(a) How does sound curriculum and pedagogy facilitate an understanding of sound as ways of knowing; (b) How do students listen, understand, and give meaning to the sounds of their surroundings; and (c) How does a sounding art curriculum function in art education.

I created a practice-related research methodology⁶⁸ approach for my research by applying the methods of sounding art practices of listening, recording, and producing as the content of pedagogical processes of the sounding art curriculum. By working with artistic sound disciplines, I communicated outcomes in ways that relied on sound as ways of knowing. Throughout my teaching of the sounding art curriculum, students experimented with sounding art methods (listening, recording, and producing), which I gained knowledge about how students listened, understood, and gave meanings to the sounds of their surroundings. Students participated in the making of the sounding arts that involved the practices of listening, recording, and producing.

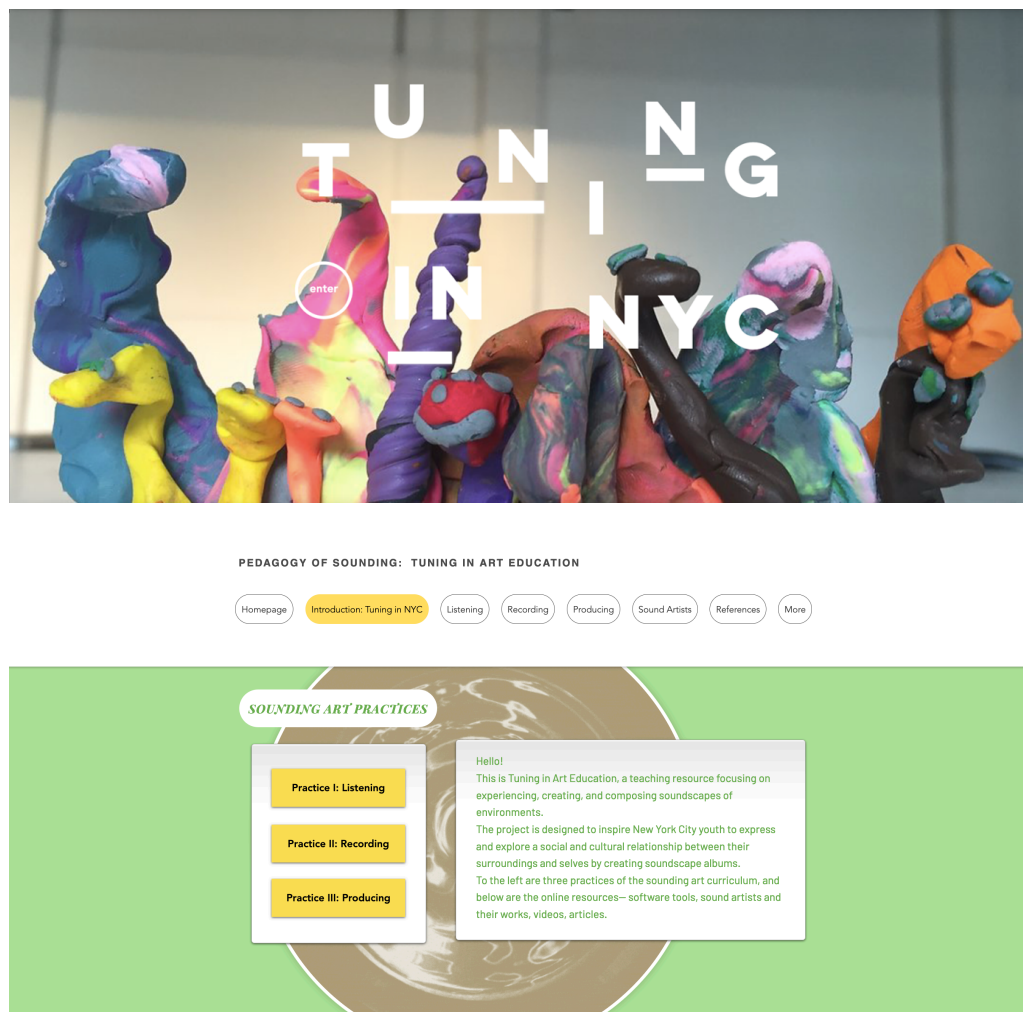
I anticipated outcomes (similar to my creative art making approach) in which that sounding pedagogy encouraged listening, understanding, and giving meaning to the sounds of surroundings through awareness and memory. Therefore, I used Schafer's (1992; 2009) educational sound approaches to support students' ways to listen, understand, give meanings to the sounds of their surroundings. Furthermore, I developed the curriculum to study students' ways of listening, understanding, and giving meaning to the sounds of their environment (and creating soundscape albums) on a website I created

⁶⁸ Sounding Art Practice as Research (SAPAR).

(see Figure 8), similar to a WebQuest⁶⁹ to inspire students for the exploration of the sounds of their surroundings. On the website, there are three practices of the sounding art curriculum with a total of ten steps (lessons): (a) Listening: Place, Sound Game, Silence, Noise, (b) Recording: Sampling Sounds, Conversations/Talks, Soundscapes, and (c) Producing: Recording Machine Sounds, Recording Rhythm, Creating a Sound Album. Each practice and lesson have separate pages that displays and describes the objectives of lessons, instructional resources, open-ended questions, Sound Artists on Spotlight, and videos of sound artists.⁷⁰

⁶⁹A WebQuest is an inquiry-oriented format for online teaching and learning.

⁷⁰ For the purposes of showing a diverse range of use of sound in the arts, I included examples of sound artists such as Kevin Beasley, Max Neuhaus, Alvin Lucier, and Christine Sun Kim, who explored the sounds of their environment and sound experiences from their own meaning-making processes. Including these sound artists and their methods of creating artworks contributed to my practice of teaching the sounding art curriculum.

Figure 8*Homepage of Tuning in NYC, Screenshot*

Note. The opening pages of Pedagogy of Sounding: Tuning in Art Education

www.tuningin.nyc

The central focus of the sounding art curriculum is to create soundscape albums by listening, recording, and producing the sounds of the surroundings. Within each of the learning segment of the practice unit (including the lesson plans), I describe how the following objectives supported students' artmaking processes: (a) interpreting art through

sound art and sound theories, (b) developing works of art using sound recording and producing techniques, and (c) relating sounding art to context through personal, cultural, and social perspectives.

The method of **listening** invited students to experience different ways of understanding and giving meaning to the sounds of their surroundings and express their own meanings of sound, noise, and rhythm; the method of **recording** sounds from surroundings engaged students to experiment with sound as a medium/material for artmaking; and the method of **producing** soundscape albums allowed students to know a social and cultural relationship between their surroundings and self. Students also identified the soundmarks from their surroundings. They collected, recorded, and created sounds and soundscapes.

Listening: Experiencing the Sounds of the Environment

The first unit of the sound art curriculum was based on listening practices and liberated class discussions about sound, silence, and noise. I used open-ended questions to inform my teaching and create an environment that supported students to freely define the meanings of sound, silence, and noise. My initial goal was to have students to come up with their own definitions of sound, noise, and rhythm rather than instructing or defining the dictionary definitions of sound, noise, and rhythm. Furthermore, I started the class with introduction on my background knowledge and by sharing my experience with The Orange Table Effect with students. After I shared my experiences of the sounds of my surroundings growing up in İzmir, Turkey, I opened the class with a discussion on what they know about their surroundings.

Through the method of listening, I focus on experiencing the sounds of places. In order to get into the habit of listening, Schafer (1992) uses sound exercises as a pedagogical form. He suggests asking participants to write down all the sounds they hear in their environment. As part of the ear-training method, Schafer (1977) constructs sound exercises for acoustic knowledge, such as imitating the sound of objects. The ear cleaning exercises' goal was to learn how people behave with sounds and interpret sound. Schafer believed that the ear cleaning exercises could help us improve our sonological⁷¹ abilities or, in other words, help us understand how aural culture⁷² work in our environment. One of the purposes of the ear cleaning method is also to help cleanse the ears. Schafer explains that the goal of cleansing the ears is to respect silence because of our environment's hectic and noisy structure. The self-silencing exercise might appear challenging and intimidating for some people, and Schafer acknowledges that the silencing practice is not for everyone. However, suppose one accomplishes the self-silencing activity. In that case, they might start seeking sounds with specific characteristics from their environments (e.g., sounds with a rising starting pitch, short nonperiodic bursts, dull sounds followed by a high squeak). The purpose of the self-silencing activity scrutinizes every sound and more fully in their sound searching process.

Listening exercises help us to think thoughtfully about the sounds of environments. The first unit of the sound art curriculum is also based on listening practices and liberated discussions about sound, noise, and rhythm. The objectives of the

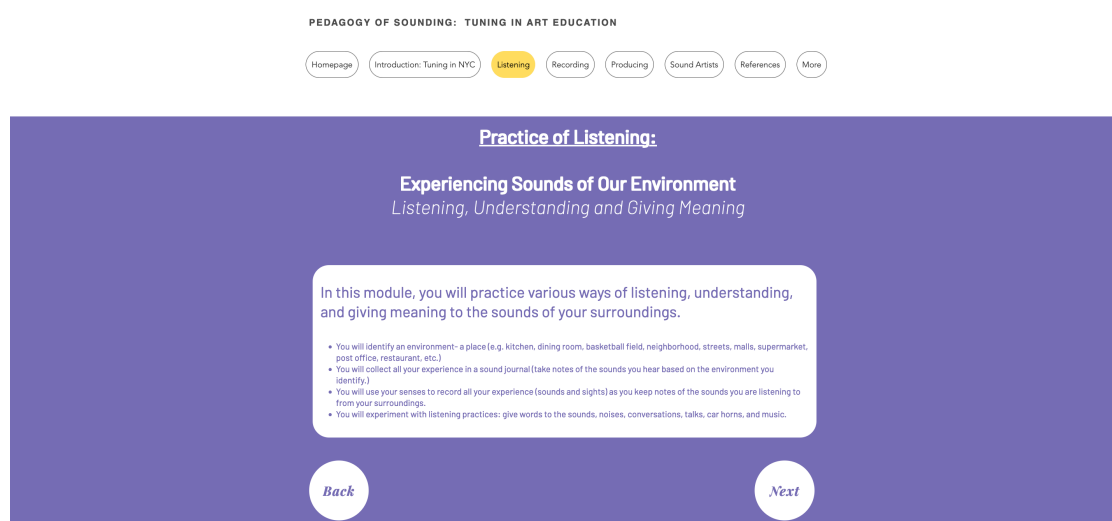
⁷¹Is the study of sound in a variety of disciplines—medicine, electronic music, psychoacoustic, etc.

⁷²Aural culture is how an individual knows about the sounds of his/her environment based on what they learn through listening.

first unit focused on experiencing the sounds of our environment. In this practice unit, students learned about various ways of listening and understanding the sounds of places (see Figure 9).

Figure 9

Experiencing the Sounds of the Environment, Screenshot



Note. The opening page of the first unit <https://www.tuningin.nyc/listening>

Lesson 1: Places

The aim of the first lesson⁷³ is to learn and understand how physical environments affect our social life. By focusing on how places are represented, students were able to understand how to interpret their places and its characteristics. Students will also identify a specific place (e.g., kitchen, dining room, basketball field, etc.), and collect all they experience in a sound journal by using their senses.

⁷³ <https://www.tuningin.nyc/places>

Inspired from Sara Mansfield Taber's (2018) ethnographic methods for figurative language, I asked students to describe their environment's sounds and take notes in their sound journals: What kind of environment do you spend the most of your time in? Is it a specific place? What does this environment or place represent? What does it look like? For the purposes of demonstrating an example of characteristics of places, I showed three different examples to students. First, I shared my sounding art example of The Orange Table Effect with students. I asked them to think of the first sound that they can remember (a sound event from their past) and write down their responses in their sound journals.

Second, students participated in an interactive listening activity, Sonic Voyages, created and designed by The Voyages Issue of New York Times Magazine.⁷⁴ Sonic Voyages consisted of 11 soundtracks for 11 different places from Utah to India. The activity allowed students to learn about specific characteristics of places through a sonic listening experiment and hear about the stories and sounds of the places.

Third, I played Janet Cardiff and George Bures Miller's video,⁷⁵ Night Walk for Edinburgh to introduce the students with the idea of how artists create new ways of artmaking through different genres (e.g., sound, image, three-dimensional, and sensory). Finally, I asked students to choose a specific place that reflects and expresses who they are by informing their social and cultural experience. To achieve this, I provided students

⁷⁴<https://www.nytimes.com/voyages>

⁷⁵ <https://cardiffmiller.com/walks/night-walk-for-edinburgh/>

with an interactive sound journal activity (see footnote 63). At the end, students created a sketch of their place in their sound journals (see Chapter Six: Rhythm for examples).

Lesson 2: Guess the Sound Game

The second lesson aimed to practice listening to the sounds categories of the surroundings. So that the students experience different ways of hearing (understanding and paying more attention) the sounds of surroundings. I started the class by asking students to give their own meanings to the sounds that they hear and listen (and what sounds are meaningful to them. As students started noticing the sounds of their surroundings', they shared how they feel about the sounds, and what the sound textures feels like.

For a listening activity, Schafer (1992) suggests matching sounds with images and “try to draw what you imagine they look like, give impressions only—textures, shapes, rhythms.” (pp. 60). He asks: “Can a sound be round or triangular?” (Schafer, 1992, p. 62). Similar to Schafer’s (1992) exercises in listening and sound-making, in this lesson, students explored the textures, shapes and rhythms of the sounds they heard as part of the listening activity assignments.

First, I introduced students with The Sound Orchestra⁷⁶ (a sound game I designed) in which they listened to sounds (see Table 1).

⁷⁶ See Chapter Five: Listening and Noise for a more detailed analysis.

Table 1*The Six Categories of The Sound Orchestra*

Sound Categories	Background Noise	Music	Machinery	Social	Nature	Object
	Central Park	Beethoven's Symphony	Bus engine	Martin Luther King's voice	Ice cracking on frozen lake	Metal screeching
	Upper West Side Streets in NYC	Metallica songs	Planes flying	BLM protests	Rain	Basketball swish
		NASA's electronic song of the galaxies	Computer fan	Screaming	Tree leaves moving	Bicycle rides
		Jazz band playing on the street	Helicopters flying	Church bells	wind	Skateboard's wheels
				Prayer calls		
				Chewing gum		
				People talking		

Note. To help with the website navigation when playing the sound recordings, I placed the categories in six different colors in the following order, pink, purple, red, orange, green, and blue. I re-adapted the categories in inspiration by Luigi Russolo's six

categories⁷⁷ of noise for the Futurist Orchestra, I created The Sound Orchestra and assembled a diverse range of sounds.

After the listening activity, I asked the students the following questions: What do you notice? What do you wonder? What do you hear? Where do you think these sounds might take place? Next, I asked students to create a list of sounds (soundmarks) from their places; write what they think of sound; and what sounds are meaningful for them. To achieve this, I shared a list of questions with students: What do you notice? What do you wonder? What do you hear? Where do you think these sounds might take place?

Lesson 3: Silence

The third lesson's central focus was to introduce the notion of silence as a context and form of art. Students continued practicing listening exercises and learned how to ear-training techniques so that they understand and give meaning to the sounds of their surroundings more fully. Furthermore, I used Schafer's (1977) educational sound exercises to help students understand about the ear-training processes and the sounds of their surroundings. Through the listening activities, students explored sounds amidst silence and shared their ideas of silence in their surroundings. To support this process, I asked students the following questions: How do you define sound, personally? What kind of sounds have you noticed in your environment before? What does it mean to you to

⁷⁷The six categories of noise for the futurist orchestra that is develop by the Italian futurist artist Luigi Russolo is (1) roars, clips, noises of falling water, driving noises, bellows, (2) whistles, snores, snorts, (3) whispers mutterings, rustlings, grumbles, grunts, gurgles, (4) shrill sounds, cracks, buzzings, jingles, shuffles, (5) percussive noises using metal, wood, skin, stone, baked earth, etc. and (6) animal and human voices: shouts, moans, screams, laughter, rattlings, sobs.

listen to the sounds of your environment/place? Next, I played a video of Murray Schafer which was called, *Listen*. In this video, Schafer discussed how soundscapes are any collection of sounds as a painting is a collection of visual attractions. At the end of the video, Schafer introduced the audience with a listening activity called Silence,⁷⁸ and I asked students: What did you hear when Schafer's voice has stopped? What did you notice? Students wrote their responses in their sound journals.

Lesson 4: Noise

The fourth lesson aimed to explore how noise informs a form of social and cultural knowledge when considering the sounds of surroundings. To analyze the meanings of noise, I started the lesson with a discussion on the definitions of noise. I asked students: "What is noise? Can you think of specific examples of what you think, what you would consider as noise/or to be noise?" I asked students to write their answers in sound journals. Students described and defined the meanings of noise from their perspectives and shared them with class. Finally, they created a list of sounds that reflected of their own meanings of noise from their surroundings.

Next, as a class, we discussed about the concept of noise and how we understand noise. As an example of an artist and musician who experiments with noise, listening and sounds of places, we reviewed Max Neuhaus's *New York Out Loud*. After watching

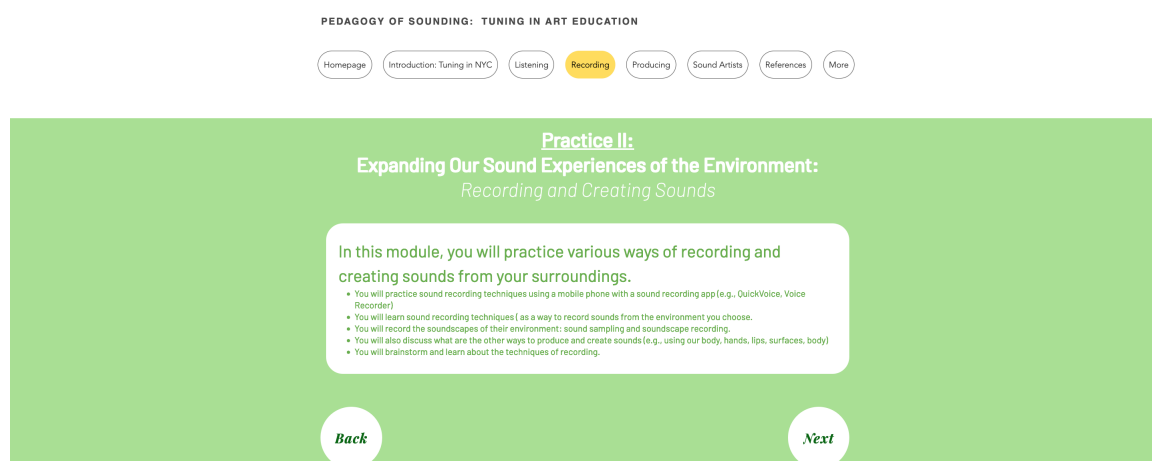
⁷⁸ In my sounding art curriculum I presented a slightly different notion concerning Schafer's (1977) approach to silence. I borrow from the creative approach of the American composer John Cage's (1961) composition of the 4'33" ⁷⁸ to argue that "no silence exists that is not pregnant with sound" (p. 135). In his performance of the 4'33", Cage invited his audience for an exploration of a new way of listening and understanding the sounds of their surroundings (Gann, 2010; Kahn, 1999) and explored noise as a musical notion.

Neuhaus' video, we explored the practice of listening through the concept of noise and discussed how noise occurs in the soundscapes of our environment. After this discussion, I introduced students with the sound artist Kevin Beasley, an American artist working in performance and sound installation. We reviewed Beasley's techniques of creating sound installation to understand how he uses sound as an art material in juxtaposition with the relationship of self and place. As a final activity, students explored tangible sound artmaking (sound installation) processes using the materials inside their art kit bags⁷⁹ and created sound installations that made noise.

Recording: Expanding the Sound Experiences of the Environment

I designed the second learning segment to expand students' experiences by asking them to practice recording the sounds of their surroundings using a mobile phone with a sound recording app (e.g., QuickVoice, VoiceRecorder, etc.). In the practice of recording, students learned about various ways of recording techniques and created sounds and soundscapes of their surroundings (see Figure 10 for objectives).

⁷⁹ See Appendix G.

Figure 10*Expanding the Sound Experiences of the Environment, Screenshot*

Note. The opening page of the practice of recording can be seen in this link:

<https://www.tuningin.nyc/recording>

Prior to this learning segment, students created lists of the sounds of their places, and explored sampling methods, defined rhythm, and explored the techniques of sound artists such as Alvin Lucier and Steve Reich. Furthermore, students experimented the recording techniques using their computers with a sound editing software and smart phones with a recording app to experiment with soundscape production. The purpose of the practices of recordings in this learning segment was to prepare students for the final learning segment which was the producing soundscapes of albums from surroundings.

Lesson 5: Sampling

The aim of the lesson five was to create and record the categories of noise from the surroundings. To achieve this, I introduced students with Luigi Russolo's six

categories of Futurist Orchestra and asked them to create a list of their own “six categories of the Futurist Orchestra” based on their surroundings. Next, I invited students to discuss about a contemporary music producing method called sampling.⁸⁰ Through this method, students explored ways in which they created rhythm by recording the sounds of their surroundings. They also learned about how singers/musicians have used sampling as a method to produce music (e.g., A-Ha, The Weeknd, Portishead, and Pitbull). I shared the following sampling examples: The Weekend’s *Blind Lights*; Pitbull’s *Feel This Moment ft. Christina Aguilera*; and A-ha’s *Take on Me*. As a class, we discussed how singers today use sampling technique in their music. Finally, students gathered sounds and sound effects from the internet to reflect the sounds of their places and created sound recordings in Audacity and GarageBand.

Lesson 6: Conversations/Talking

As the purpose of the lesson, students practiced different ways of recording the sound categories of their surroundings. The focus of this lesson was to encounter conversations and talking as part of the soundscapes of the surroundings and record them. For example, they created sound recordings based on one, two, or all of the following four prompts: (a) record your own voice, (b) record another person’s voice, (c) record a conversation between two people, and (d) record sounds from around your home. In order to achieve the goals of the lesson, students turned their cameras off and spent 30-40 minutes recording the sounds of their surroundings. Once they were finished recording,

⁸⁰ Sampling is an editing, looping, and manipulation technique that music producers use.

they shared their computer screens with the class and played the sound files they recorded from their surroundings. The majority of students chose to record the sounds of their surroundings from their homes/apartments.

Lesson 7: Soundscapes

In Lesson 7, the focus was (a) to record the sounds that students hear in their particular surroundings, and (b) to record sounds that students create/generate while considering the other sounds (that occur in their surrounding) as a whole. I provided students two options to record the sounds of their surroundings. In the first option, I offered the following prompt: “As you walk around your place, pay attention to the sounds around you. Using your smartphone, record the sounds around.” In the second option, I asked: “Generate sounds yourselves by considering conversations, sounds of tv/radio/videos, etc.”

Students recorded and collected the sounds based on their choice of place. Once they were finished, the sounds from their surroundings. Next, students created sound sculptures using oil-based clays based on the texture of sounds they were listening to. While students worked on creating their sculptures, I kept my Zoom camera on and demonstrated an example of how to build a sound sculpture using oil-based clay.

Producing: Creating Soundscapes of the Environment

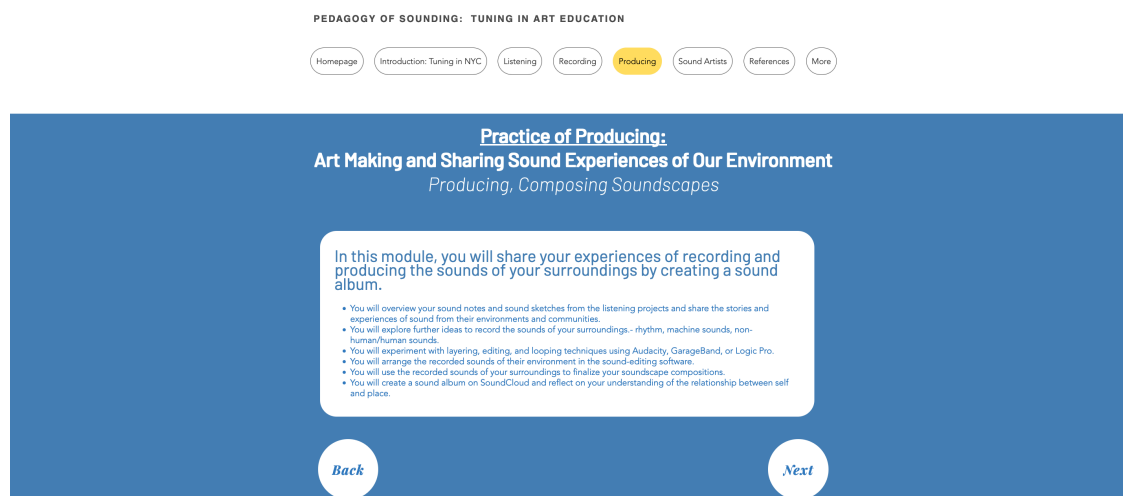
The third and final practice unit’s central focus was on producing and creating soundscape albums of the surroundings (using the sounds students recorded and collected throughout the online sessions from their surroundings.). Students explored further ideas

to record the sounds of their surroundings (e.g., rhythm, machinery sounds, non-human/human sounds). By using the recorded sounds of their surroundings, students created soundtracks for their soundscape albums as the final product of the curriculum.

The practice of sound production was completed remotely. Students created (produced) sounds that were situated within the rhythmic, machinery, and non-human/human categories. As students practiced the recording techniques, they also experimented with editing, layering and looping techniques. They arranged their sound recordings (audio clips) using an open-source software tool such as Audacity (P.C.) or Garage Band (MAC) (see Figure 11 for objectives).

Figure 11

Creating Soundscapes of the Environment, Screenshot



Note. Opening page of the third unit <https://www.tuningin.nyc/composingsoundscapes>

Lesson 8: Human/Non-Human Sounds

In this lesson, students identified (a) sounds that are human made and (b) sounds that are non-human from their surroundings. The purpose of studying human/non-human sounds was to elicit a discussion concerning specific knowledge (with regard to knowledge and communication) about machinery sounds. At the beginning of this lesson, I invited students to brainstorm/think about machinery sounds, and provided them the following questions: What kind of machinery sounds do you hear in your environment? Do you consider machinery sounds human or non-human? As a result, students identified the kind of machinery sounds (e.g., TV sounds, the noise of the fridge, the sounds of the computer fan, etc.) they hear in their surroundings and expressed their ideas of what they considered human and non-human sounds. Finally, students recorded the sounds that they identified from their homes.

In order to accomplish the recording task, students turned off their cameras, stepped away from their desks and explored sounds from their surroundings (homes) for 30 minutes. After they recorded the sounds on their smart phones, they uploaded the sound files to their computers and spend another 30 minutes to manipulate and edit the sounds they recorded.

Lesson 9: Rhythm

The purpose of Lesson 9 was to put together the previously recorded sounds and create soundtracks that has rhythmic qualities by mainly focusing on one of the characteristics of rhythm, which is *beat*. Students identified rhythm as a way to create a

musical soundtrack for their soundscape albums. Students also recognized rhythm and the use of repetition in producing soundscapes.

I asked students to think about rhythm and record more sounds from their surroundings (this time they were specifically searching for sounds that was repetitive) and using sound effects from the Internet (i.e., YouTube). Students also continued practicing editing, layering, and looping techniques to produce rhythm. We watched tutorials about how to edit, layer sounds and create fading effects in Audacity and GarageBand. In addition to the editing processes,

Students shared their sound compositions by sharing their computer screens on Zoom and displaying their Audacity pages. As a class, we listened to each student's sound compositions. Students also shared details about their sound compositions.

Lesson 10: Soundscape Albums

Given the central focus of the sounding art curriculum (which is to compose soundscapes of the surroundings and present the soundscapes in a soundscape album), First, students put together the sounds that they recorded, and this had given students the opportunity to exhibit their work on an online platform. Next, they created a soundscape album using SoundCloud.⁸¹ As a final step, finally they wrote their personal, social, and cultural perspectives about each of the sound recordings they created to show their understandings of the relationship between their surroundings and self. To support this process, I asked students to consider the following: What does your artwork represent?

⁸¹ <https://soundcloud.com/sound-art-sound-installation>

What does it mean? What does it say? How does the sounds you recorded present your place? What is your personal connection to the sounds of your environment?

Once students created their albums, we created an online exhibition and played each sound piece to listen to the soundscapes of places for second half of the class. At the end of the online exhibitions, students also shared their feedback about the sound curriculum.

In the following chapter, I show how students define/understand/explain the meanings of sound through the practices of listening to their surroundings. My analysis shows how a sounding art curriculum and pedagogy facilitates an understanding of sound as ways of knowing. Students' responses, dialogues, and notes showed that the practices of listening, recording, and producing allowed students to express a social and cultural relationship between their surroundings and self. I also discuss how the students distinguish noise, rhythm from other sounds and learn new ways to create sounding arts through the following creative methods: listening, recording, and producing.

CHAPTER FIVE:

LISTENING AND NOISE

In Chapter Four, I draw from my fieldnotes, students' sound journals, conversations, and interviews to describe the students' listening experiences of the sounds of their surroundings. I begin the chapter by narrating a single virtual session as a way to show the virtual teaching ritual that students and I have followed, and I then use students' responses for the reader to get a sense of how students listen, understand, and give meanings to the sounds of their surroundings. Through the process *listening* (tuning in), students described sounds in their own ways, often defining sound as noise.

To present the findings about how students listen (tune in), I use the first unit of my sound curriculum, "*Listening: Experiencing the Sounds of Our Environment*" This unit consisted of four lessons, and each lesson focused on students' experiences of listening to the sounds of their places. Inspired by Schafer's (1977) ear training methods, I provided students examples of soundscapes and sounds from various surroundings and invited students to bring new perspectives of listening and hearing the sounds of surroundings from a more conscientious angle. After the ear training (listening) practices, students explored and recorded the sounds of their own surroundings; and responded to the following two questions: How do you define sound? What kind of sounds do you hear in your environment?

In response, students expressed their own ways of understanding the sounds of their surroundings (e.g., their home, NYC streets, and basketball courts) and created a list of soundmarks that included family sounds (e.g., talking, loud speaking), appliances

humming, wind, neighbors, music, typing, heater clicking, and pet sounds. During our conversations, two topics emerged. One of them was how we listen and understand sounds, and the second was how we give meaning to sounds as a way of knowing places.

How Students Listen and Understand Sounds

As part of my practice-related researcher role, I recorded soundmarks and soundscapes of my own environment prior to the start of the unit. I then shared my recordings with students at the beginning of lesson two, which was called *Guess the Sound Game*. Before I presented a recording, I said to the students: “Please grab your sound journals and a pen and take notes of the sounds you hear. We begin with a simple listening exercise. Let’s just listen to the following sound file! What do you hear?”

After 4 minutes, students discussed their notes from their sound journals with the class, and they described the sounds they heard in the following ways: noise, music, ambient sounds, dissonance, people talking, street noise, city noise, faded sounds, rain, and reverberations. The following vignette narrates one of the classroom dialogues and students’ descriptions of the soundscapes and soundmarks that I presented to them.

Tyrone: I heard what the main part of it was the music that was like being played. I don't know specifically what it was, but there was music playing, there was a lot of speaking in the background. Sounded like visiting places. I wrote in my journal like the background sounds were city and car noises etc.

Behar: I went into more detail. I heard like the music getting louder and then kind of you walking away from it. I don't know and then you just left. Someone was playing saxophone, jazz music. Sounds of the streets of New York City. The music getting louder and then going further away and then sounds of cars and taxis.

Penny: I noticed something else. I noticed that as portions of the sound that it was louder than other portions like the saxophone or the instrument was louder at one point, and then faded off, became weak the next second. That's what I noticed.

Gabrielle: Yeah, I heard that too. You could hear the noise in the background, getting louder and like they just kind of faded out the next few seconds.

I asked: Why do you think that happened?

Jalen: You get the feeling that a person was walking around with a mic.

Valencio: I also heard the bus stop at one point, and also heard horns from the cars and a motorcycle engine but I also wondered what some sounds are. Like it sounded really windy.

Brian: So, I noticed about the entire thing that we felt like it was outdoors. Like there's real guys too because of the background noise. First, I thought it was rain, but it was, I think it was cars running in the background.

Jalen: It sounded like New York transition, you know people play their instruments, the transition, I heard trumpets I think maybe it was a saxophone, sounds of a little band. Sounds of cars as well.

Gabrielle: I basically heard like what everyone else heard but also heard like traffic, and I think I don't know if there was rain.

Tal: Yeah, um... I definitely heard some of those like ambient sounds. Traffic sounds. I also heard a tiny bit of dissonance. With that, I feel like I could hear some fan things in the background, but I wasn't quite sure how to put my finger on it yeah.

Lucas: Yeah, I heard sounds like you know, music and people walking and kind of like the natural reverberations, kind of like the city sounds, you can kind of hear it. It's kind of sounds like it took place in Manhattan. That's like a very kind of I guess Manhattan sound.

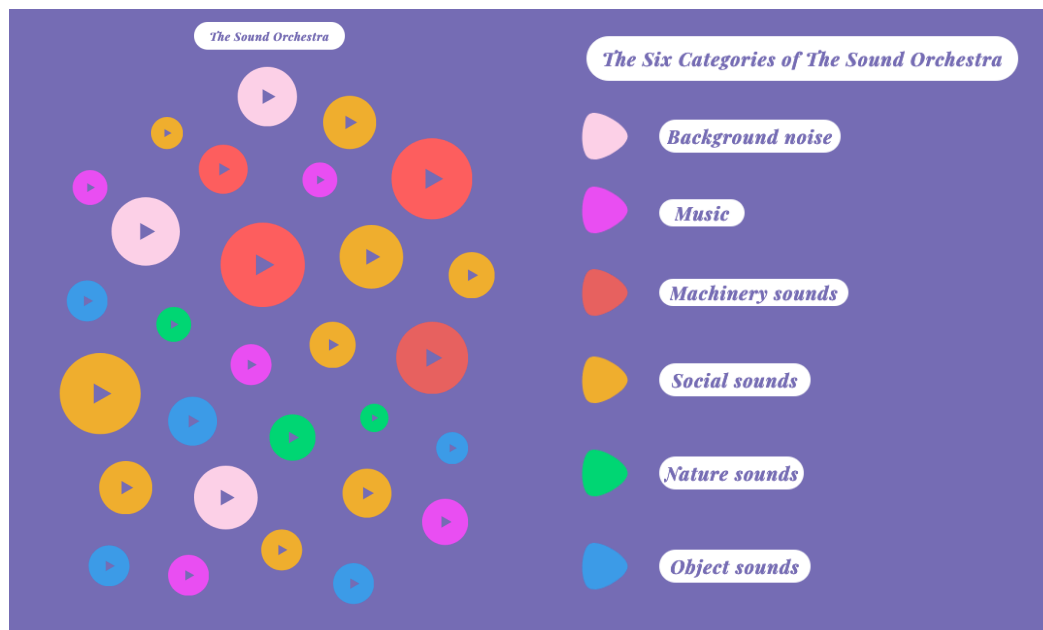
The responses of the students indicated that they identified the sounds of a place through the act of listening and hearing. In their descriptions, they included sounds such as background noise, city noise, and music. Their comments showed that through the listening activity, students were able to listen, understand, and give meanings to the types of sounds of a place. The students' descriptions in the above vignette demonstrate Feld's (1996) acoustemology of place in that they embody particular ways of knowing about a

place, with implications for how they listen, hear, and understand the sounds. In other words, students' expressions of what they heard showed their relationship between self and place, "suggesting that the process was facilitated through a bodily understanding of place" (Powell, 2008, p. 543).

After the class discussion described above, I introduced a second listening activity called *Sound Orchestra* (see Figure 10). I was inspired by Marinna Guzy's (2017) *audiation* approach, which involves taking sounds from one place to another to give a listener in one place the feeling that they are in another place (i.e., taking street sounds to a park to give a listener in a park the feeling that they are on a street). In the Sound Orchestra (see Figure 12) listening activity, I assembled twenty-eight (28) sounds from everyday life, and I asked students the following questions: What do you notice? What do you wonder? Where do you think these sounds might take place? When you finish, could you come up with a story, a narrative, a memory?

Figure 12

The Sound Orchestra and The Six Categories, screenshot, 2021



Note. The sounds can be found here <https://www.tuningin.nyc/soundgames>

The duration of the audio files ranged from ten seconds to three minutes. This diverse set of recordings included the voice of Martin Luther King, sounds of chewing gum, remix electronic sounds, water drops, music of the band Metallica, prayer calls from a mosque, church bells, Beethoven's symphony, soundscapes of Central Park, metal screeching, door squeaks, foam sounds, ducks' footsteps, a helicopter flying, people walking, a basketball 'swish' sound, and so on.

I asked the students to click on each sound bubble at random, guess the sound, and take notes about each sound they heard. Students' predictions were more accurate for some sounds than they were for others. However, the point of the exercise was not to identify the sounds correctly, but to describe the sounds freely and to express the feelings

that the sounds evoked. Their reflections included meditative sounds, sounds of chaos, nature sounds, peaceful sounds, loud noise, conversations, and orchestral sounds. The listening and sound activities in the virtual classroom allowed students to experience a sense of hearing as sound as ways of knowing (Feld, 1996).

Students' responses overlapped with Atkinson's (2007) discussion of awareness in his theory of ecology of sound (urban noise), which argued that we are often not aware of the sounds in our immediate surroundings, but it's important to be aware of these sounds because they are "a produce of how we live" (Atkinson, 2007, p. 1907). I notice Valencio's reflections, one of the students, gave meaning to sounds by demonstrating a sense of awareness of their surroundings through the identification of sound marks and recognizing sound patterns, which is a transformation of ideas from sonic knowledge (Atkinson, 2007).

I noticed that some of the sound files were the same sounds. They sounded really similar because I could hear the continuous chirping sounds and they both sounded similar. They happen in nature, probably outside, similar to Central Park. It was also different than the other concepts, because I heard the other sounds and they sounded like speeches, rock music, protests, and certain sound effects like water drips, bells...but this one was different, it just sounded like nature and peacefulness." (Conversations, February 18, 2021)

Students also shared memories that the sounds brought to mind. For example, Mila shared a specific event from her childhood when she heard the church bell:

One sound that stood out to me was like about a time when I was at sixth grade. I had this teacher and every day in the morning, she would ring this bell and she

would make us raise our hands until we couldn't hear the bell anymore...

(Conversations, February 18, 2021)

Mila's response shows how students listen and understand the sounds of their surroundings by associating them with memories. Memory has been addressed as a mode of listening experience by Feld (1996) through his studies of the *Waterfalls of Song* language of the Kaluli people. For example, the following transcriptions: "falling" bu, bulu, gu, gulu, gulugulu, "splashing/plunging" kubu, kubukubu, tubu, tubutubu" (Feld, 1977, p. 108) explain how the Kaluli people retrieved information from the forest and communicated with each other through the process of memory (i.e., a sensorial experience), which helped them to *know* and understand their surroundings of the forest.

Feld argued that the conceptualization of water (the way that Kaluli people listen, understand, and give meanings to the sounds) embodies memory and experience. He explained that acoustemology is a sensorial experience. In other words, the sensation of hearing (sounds) is a vehicle to comprehend sonic experiences and presences in our environment (Feld, 1996).

Memory was also discussed by Guzy (2017), who developed a sound method called audiation, a process in which the sounds of the past (memory) are re-created and placed in a present physical environment. For example, Guzy created a list of sounds that represented the particular activities of a historical site. The sonic representation of the historic soundscapes allowed visitors to experience and connect with the past. Similarly, Mila's response to the church bell sounds showed connections to the sounds of her past and created a connection between listening, knowing, and understanding the sounds through sensory experiences. Mila went on to record the sounds of her street (in front of

her house) and create soundscapes that represented on her memories of the place (see Figure 13).

In my last audio piece, I recorded the rain and my footsteps, then put them together to give the illusion that I was walking down my block in the rain.

Altogether, the environment I chose, the street I live on, has lots of good memories for me, so I tried to show this place by my tracks of what it would sound like to be there. (Sound Journals, April 22, 2021)

Figure 13

Mila's Soundscape Album, Screenshot from SoundCloud



Note. Listen to Mila's soundscape compositions here: <https://soundcloud.com/sound-art-sound-installation/sets/mila>

How Students Give Meaning to Sounds

Not only did students use memory to understand sounds, but they also used it to give meanings to sounds. For example, student Steve's reflection from a listening practice showed this connection between memory and meaning, as he "ruminated upon the sounds of the past" (Guzy, 2017, para. 3).

The swishing sound brought me back to the time like when I first played basketball at my church and when I made it in. It showed me like how much I like basketball and increased my love for watching basketball and playing.

(Conversations, February 18, 2021)

The swishing sound of the basketball brought back memories for Steve and reminded him of his love for the game. In other words, the sound evoked a feeling in Steve which gave the sound meaning. Students also used their feelings that weren't associated with their memories to give meanings to sounds, as Jalen demonstrated below:

For some reason one sound that I listened to really made me feel like...I've got a lot of feelings as if I'm already a part of the sound I am hearing. I'm a part of this life, the cycle of life, and it reminds me of full of water, if that makes any sense... I'm right here, I feel like I'm in a cave, even though the sound is not. It sounds like it's made from like a beat, synthesizer, or something like that, but I get it is like maybe a cave sound. Like I'm at peace, I feel very relaxed, like I'm meditating almost. So, I get a lot from there. That's pretty much it, I really like that sound though. It is very soothing, it feels like it is type of shiny, spa-like sound. (Conversations, February 18, 2021)

Jalen gave meaning to one of the sounds from the Sound Orchestra by expressing the feelings that the sound created in him. His response is an example of how students gave meaning to the sounds of their surrounding through sensory experiences (Powell, 2010; Pink, 2015). Jalen's way of listening and understanding the sounds is also associated with making sense and knowing about a place (Powell, 2015; Feld, 1996). Through the ear

training (listening) practices, Jalen freely expressed the meanings of sounds he heard and made sense of the sounds in relation to self and place through personal reflections.

Moreover, students shared their sensory knowledge of the sounds from their surroundings in their sound journals. During Lesson 2: Guess the Sound Game, as part of a listening exercise, I created an interactive game-based online interview and gathered the following responses from students. I adapted the online interview questions using Sara Mansfield Taber's (2018) method of the use of senses, so that I learn the peculiarities of students' experiences with the sounds of their surroundings (see Figure 14).

Figure 14

Sensory-based, Interactive Online Interview Questions, Screenshot

WHAT SOUNDS DO YOU HEAR, AND WHAT DO YOU SEE?

Write your answer here...

WHAT DO YOU THINK THE SOUNDS FEEL LIKE?

Write your answer here...

WHAT KIND OF TEXTURE DO THE SOUNDS HAVE?

Write your answer here...

ARE THERE, CONVERSATIONS, CAR HORNS, OR SILENCE?

Write your answer here...

DO YOU HEAR NOISE? WHAT KIND OF NOISE DO YOU HEAR?

Write your answer here...

WHO HAS CONTROL OVER THE SOUNDS OF THIS PLACE?

Write your answer here...

WHO HAS CONTROL OVER THIS PLACE?

Write your answer here...

Note. I re-adapted the questions from Sara Mansfield Taber's (2018) *Use of the Senses*.

Students responded to the sensory-based questions, based on their surroundings. Moreover, using sensory experiences to freely listen, record, and produce soundscapes encouraged students to experience the daily sounds of their environments in a new and inclusive way (See Table 2).

Table 2

Students' Quotes and Responses for Sensory Data

Place	Soundmarks	Feelings	Textures
House	"Talking from my family, usually my brother on the phone, typing, music, cooking (sizzling etc.), the shower running, noises from games, humming from the tech, ticks from the heater."	"Sometimes the chatter is annoying, but mostly comfortable and grounding, nostalgic as well."	"Crunchy, grainy, dull, sharp."
Old Apartment	"The A.C. turning on and off, my brother playing downstairs, my parents on calls in their room and the dining room at the same time."	"Warm, a sense of nostalgia and a sense of longing and comfortability, yet an opposing feeling of moving on and finding something new."	"Erratic, everchanging, yet predictable. Irregular, but patterned in a timely sense."
Room	"My fan blowing really loud, noises from outside, my mom on the phone, or the tv in my living room."	"Tense at first but then I get used to them."	"Different depending on the loudness."
Bedroom	"The wind and cars passing by."	"Harsh and soft."	"Soft?"
The Field	"The wind, the cars on the road, the thumb of my dog"	"I think the sound of wind when it is soft, sounds light and"	"Soft and rough textures."

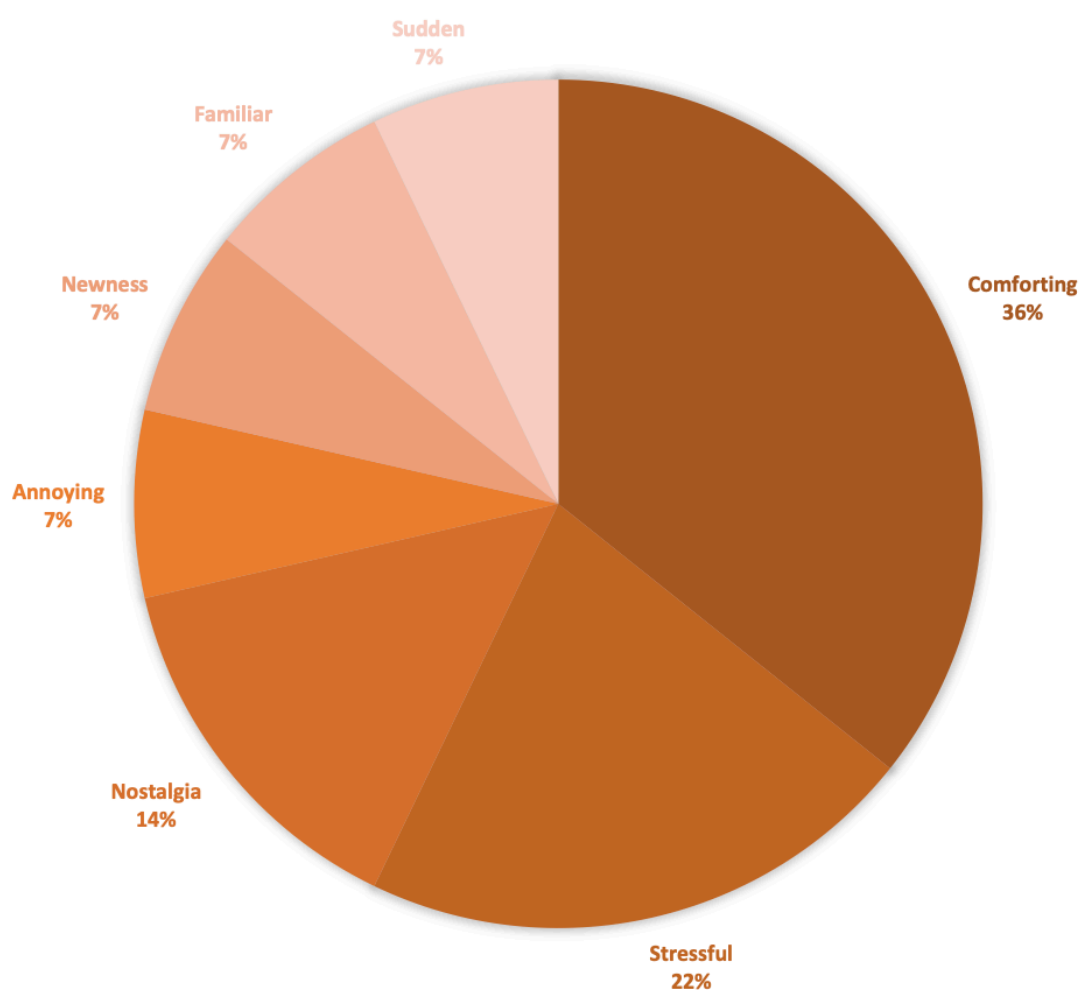
	has, him running in the grass.”	wisp but when the wind is hard it sounds angry and mad at something.”	
Basement	“The washing machine, people walking and taking upstairs, the beating of drums, and the strumming of the guitar and the plucking of the bass.”	“The sound of the bass shakes my heart, and the soft strum of the electric guitar makes me feel warm. When I bang the drums, I feel vibrations all over my body.”	“Static.”
Home	“The sirens of the streets below me, and the clouds through my window, sirens, and yelling.”	“Sharp, and rubbery, like a shark, a calculated cacophony of emotion.”	“Smooth, and pointy.”
Street	“Cars, bikes, people talking, dogs barking, bikes driving by, conversations, car horns.”	“The sound of cars and bikes feel bumpy. The sound of dogs barking and birds chirping feels sharp.”	No response.
The Basketball Court	“Wind, Trees, Basketball bouncing on court, people running, people yelling, birds, metal rim, backboard, water bottles, water fountain, airplanes, cars, engines.”	“Energetic, exciting, enthusiastic, tough, relaxing, in action.”	“Rough, hard, flowy.”

Note. I provided the questions here: <https://www.tuningin.nyc/soundgames>

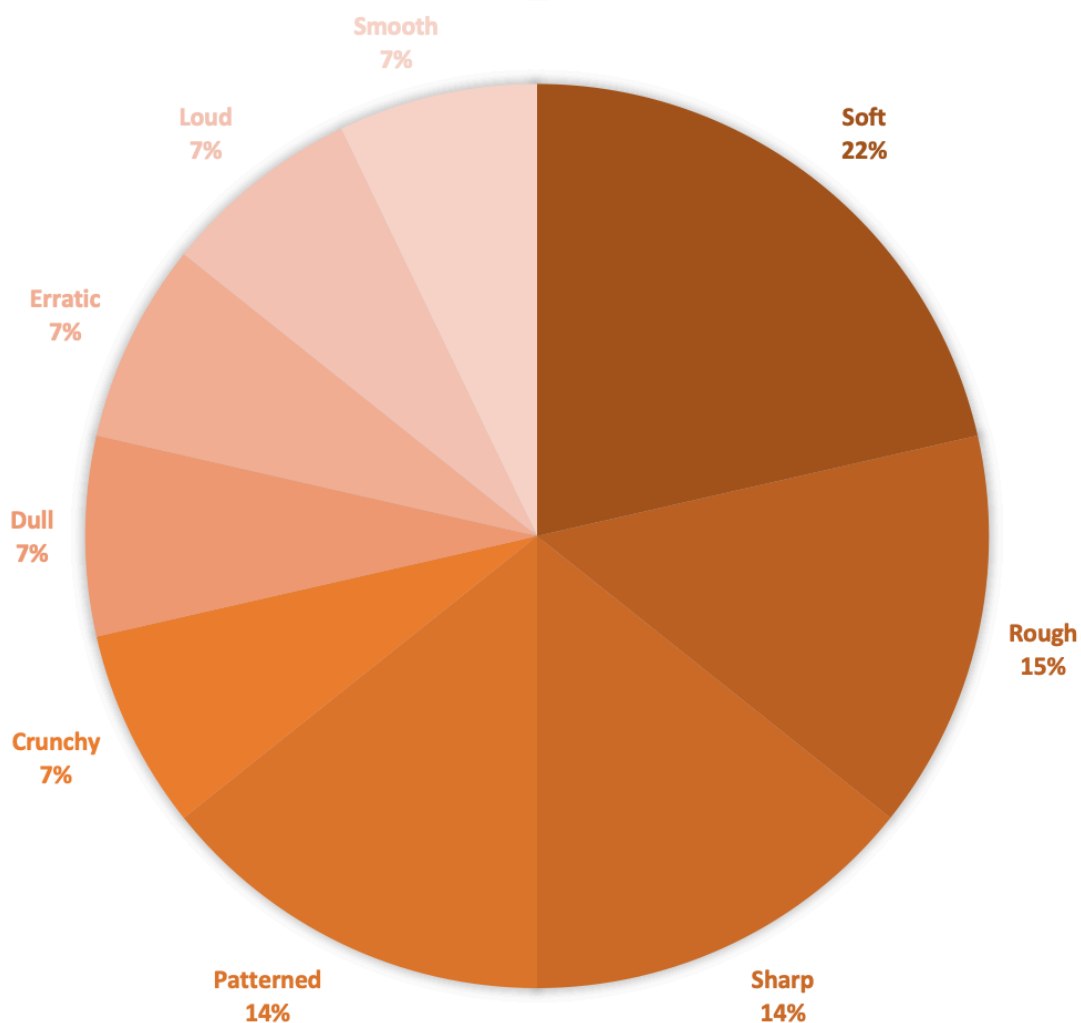
Next, I visualized the sensory data of students' responses and quotes in three categories: soundmarks of students' surroundings, feelings of sounds, and textures of sounds (See Figures 15, 16, and 17).

Figure 15

Students' Feelings of Sounds



Note. Notice the size of the pie of the “Comforting” sounds that students identified, indicating their feelings towards street noise and family sounds (see Figure 16 and Figure 17)

Figure 16*Students' Descriptions of the Sound Textures*

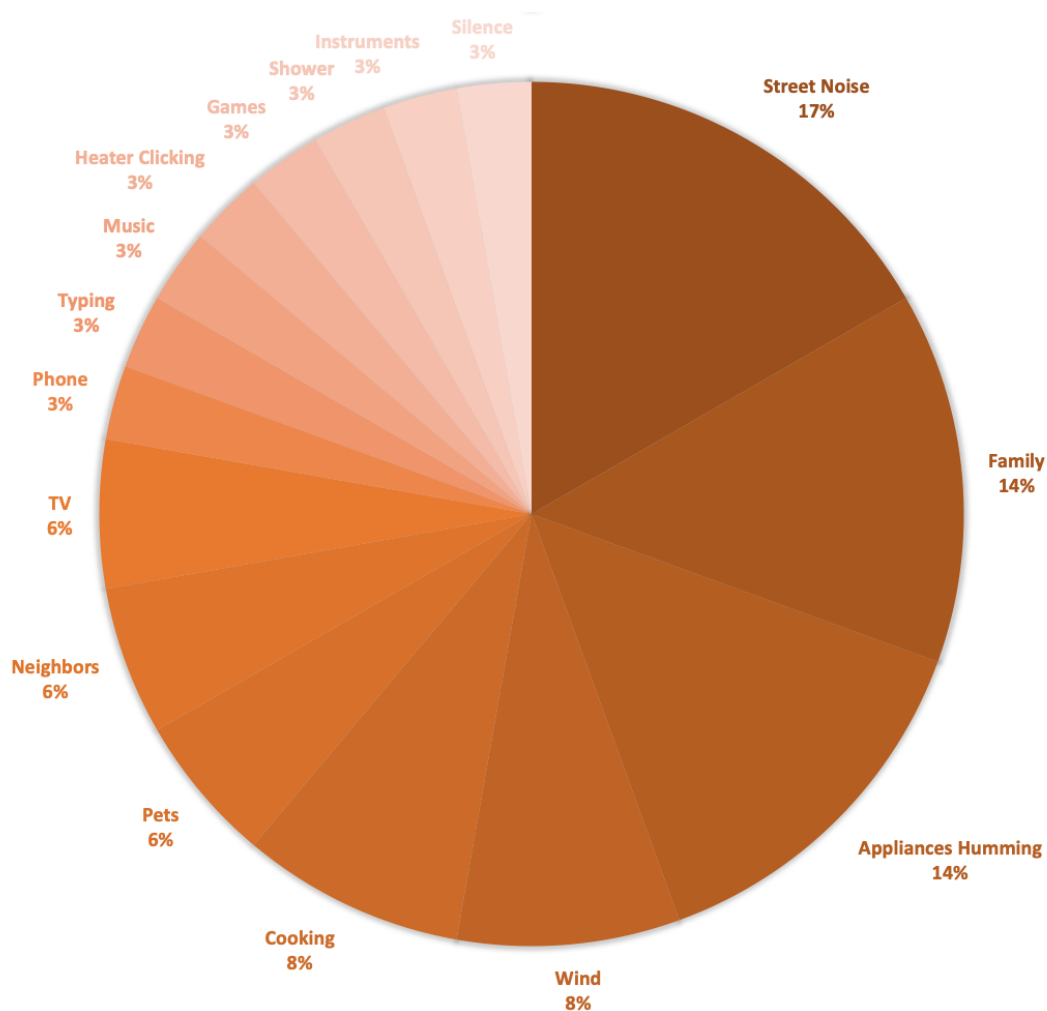
Note. Notice the size of the pie of “soft” textures of the sounds, identical to “Comforting” in Figure 15 and “Street Noise” in Figure 17.

Students provided a list of soundmarks in their sound journals, and I created a complete list of soundmarks provided by all the students. I then grouped the soundmarks into categories to show the patterns in the data. For example, I grouped sounds such as

“refrigerator, computer fan, and dishwasher” into the “Appliances Humming” category. The following chart shows the breakdown of the soundmarks by category, with 17% of student responses categorized as “Street Noise”, 14% as “Family”, 14% as “Appliances Humming”, and so on (see Figure 17).

Figure 17

Soundmarks of Students' Places



Note. The chart above provides a visualization of the soundmarks of students' places in New York City during the pandemic.

During the discussions on listening, understanding, and giving meanings to the sounds of our surroundings, students often described sounds as *noise*. One of the major findings of my study was that students perceived noise as something positive that, far from avoiding, they used as core element of the soundscapes they created to express a relationship between their surroundings and self. This positive perception of noise lies in stark contrast to the meaning that Schafer gives to noise, when he says that “We can add more noises, or we can add more beautiful sounds... we're living in a kind of dreadful time, which we have sound overkill and that's a real problem. So, one thing we might think of doing is to begin to reduce the number of sounds in our life (Listen, 2009, 1:23). Schafer implies that noise is the opposite of beautiful, giving it a negative meaning.

Sounds as Noise

Students' statements revealed the ways in which they listened, understood, and gave meanings to the sounds of their environment and created a relationship between self and place. Their responses also showed that they used the concept of *noise* to listen to sounds that they wouldn't normally hear (Atkinson, 2007). Students made sense of the sounds they heard from their surroundings and often described sounds as noise, as participant “Penny,” a high school student from New York City noted in a conversation that “sounds are something that we hear or something that we make. The way we hear sounds is that we listen to the noises that we hear, then we respond.”

The concept of noise broadened students' ways of listening (tuning in) because it allowed them to pay attention to the details of the characteristics of their place. For

instance, participant, Valencio, another high school student from New York City, went into detail about the sounds of the basketball court near his home in his sound journal by describing them as “the noise of shoes slipping against the floor, conversations of many people, car engines, car horns, and airplanes.”

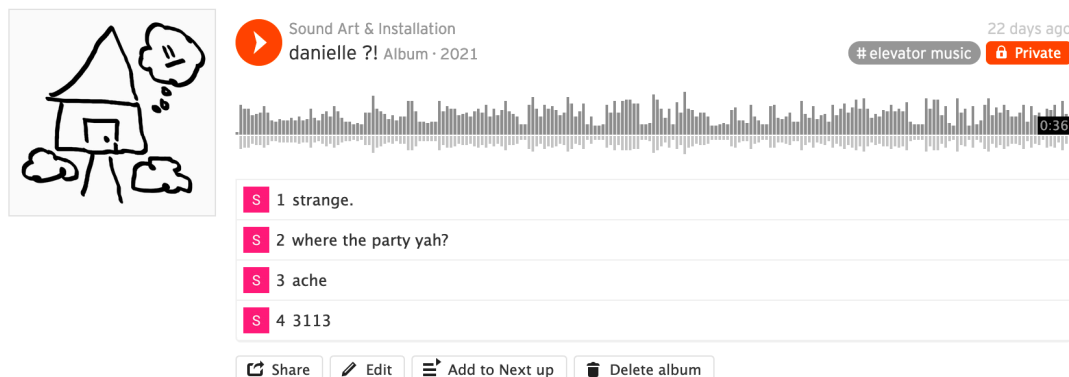
Other students shared that noise is always in our surroundings, it can give us indications about how things are going or what events are happening, and it can also change our mood. Another participant, Tal, a student from Brooklyn, New York, described every sound in his apartment as noise, and in a conversation, he said: “Noise is a resonating frequency. Noise is emotion. Noise is eating with your other senses. Noise can be a million little things, and nothing at all.”

Students found noise in their surroundings such as wind blowing, music, car horns, ticking of the clock, moving of the chairs and table, buzz of the lights, footsteps, neighbors, closing doors, rainfall splattering on the ground, clanks and clatters, dogs barking, people talking, and walking around the room. These categories of noise had similarities with the Italian Futurist painter, Luigi Russolo’s initiation of the six categories of noise (The Art of Noise – The Futurist Orchestra): noises of falling water/claps/driving noises; whistles/snores; whispers/mutterings; cracks/buzzing; percussive noises using metal, wood, skin (Russolo & Pratella, 1913; Weibel, 2019). This similarity led me to ask students to compose their own Futurist Orchestra by creating categories of noise that were specific to their places. First, however, I invited students for a discussion about noise and asked: “What is noise? Can you think of specific examples of what you would consider to be noise?” Students wrote their answers in sound journals then defined the meanings of noise from their own perspectives. Additionally, when

students participated in listening activities, they created lists of sound marks from their surroundings, listed the characteristics of their place, recorded the sounds they listed, and explained the meanings of sounds. For instance, inspired by Luigi Russolo's Futurist Orchestra, participant "Gabrielle," a student who had experience with Gospel music created and shared a list of categories of noise from her apartment in her sound journal "human voices, the humdrum of indoor technology, outside disturbances, odd pleasantness, semi-automatic, music to my ears, music genre—neo soul, favorite sound—water." Gabrielle's list of categories of noise from her apartment depicted specific characteristics of her place. Next, she recorded the sounds from her list and created a sounding art (soundtracks from the sound album) named *Where the party yah?* (See Figure 18), which was centered around her thoughts and her quiet moments when no one else was around her in the house. In her artist statement, shown below, she shared that, *Where the party yah?* reflects her thoughts and her surroundings at home, which shows that she's using sound as a way knowing her environment (Guzy, 2017; Feld, 1997; Schafer, 1977; 1992; 2009).

Figure 18

Gabrielle's Soundscape Album, Screenshot of SoundCloud



Note. Listen to her soundscape compositions here: <https://soundcloud.com/sound-art-sound-installation/sets/gabrielle>

My second track⁸² is more centered around the thoughts in my head, the quiet moments I get when no one else is around in my house. I might have the TV or YouTube on in the background for simulation. Sometimes I think about the world around us, like the pandemic still happening and the rise in technology; how do these affect us? Where is the overlap? Sometimes my thoughts are nothing more than aimless wonder like leaves skirting through the wind. I thought that this track was a good reflection of that. (Sound Journals, April 22)

In Gabrielle's creation of the soundscape album above, I notice that noise had become a component for students to create a relationship between self and place through the

⁸² Gabrielle referred her soundscapes (recordings) as tracks.

creation of sounding art. Sounding art presentations also involved conceptions and ideologies of listening. Similarly, Shafer (2009) brings attention on the types of sounds such as the train going of the distance, traffic noise in the distance, the clanging of the metals, birds and so on. He suggests that if you listen to the sounds of your environment carefully with your senses, your life is enhanced in a similar way that art enriches your life, because “a soundscape is any collection of sounds, almost like a painting is a collection of visual attractions. When you listen carefully to the soundscape it becomes quite miraculous” (Listen, 2009, 0:34).

Participant, “Lucas,” a high school student who participated to Pratt Institute’s youth programs for more than five years, in a conversation, reflected on the idea that noise is everything:

What I would say, sound is like noises, and is kind of like everything in a way, because everything, almost everything makes some noise. You know when the wind blows on a house, someone speaking, cars driving. There is always some sort of noise. Happy noise, noise that we ignore... (Conversations, March 4, 2021)

Students imbued sounds with a sense of meaning and often defined and described sounds as noise and showed a relationship between self and place through *listening*. Students’ ways of giving meaning to the sounds of their surroundings displayed knowledge about their place. By asking how we sense places and how senses are placed (Feld, 1996), students, better understood the notion of sonic sensibility in consideration of their surroundings. Another example that supports the notion of sonic sensibility was from an interview with Gabrielle:

I would define the sounds of my place as noise, but I don't think noise is necessarily a bad thing. I feel like it's good noise, very joyful, energetic. I don't know... It can be relaxing at times, or feel very melancholy because sometime my family discuss topics that are like pretty heavy, or, like, you know... (Interviews, April 22, 2021)

Notice how student "Gabrielle," gave a positive meaning to the noise in her home, even though she stated in earlier classroom conversations that she was in the presence of imposed sounds of her mom's "gospel singing, talking, listening to the TV, and cooking." She even stated that she was "grateful that the noises were there."

Noise in the form of imposed sound is "generally experienced in negative terms." (Rice, 2003, p. 6). For example, in the Edinburgh Royal Infirmary, patients complained of "intrusive sounds, hushed voices and whispers" (p. 4) and were "bothered by the noise of the television" (p. 4) and the "persistent tones of machines and monitors" (Rice, 2003, pp. 7-8). Moreover, Rice's (2003) study of the patients' reflections of the sounds of the infirmary differed from the students' descriptions of the sounds of their place was similar to. At the same time, I wanted to show how students' responses about the sounds of their surroundings differed from the patients of the infirmary in Rice's study (because both the students and patients were subject to imposed sounds all around them).

Like patients in an infirmary, students in isolation at home during the pandemic were in an environment full of noise imposed upon them by others. However, the noise was experienced by the students in positive terms. One of the students in my study, "Lucas," described his feelings about the sounds of his room as "a calming kind of thing" even though the sounds were "noisy," such as the "super loud" heater.

CHAPTER SIX:

RHYTHM

In this chapter, I continue to present my analysis of my fieldnotes, students' sound journals, conversations, interviews, and students' *sounding artworks*, but focus on the students' use of rhythm to record and produce (compose) their *sounding artworks*. I discuss how students record and compose rhythm and give meaning to rhythm. I focus on rhythm because it appeared in students' sounding artworks in two significant roles.

The first role was in students' ways of recording and creating the soundscapes of their places (using rhythm as one of the elements of sampling in music). The second role was in their definitions of rhythm through the practices of listening to the sounds of their surroundings. As a result, students explored rhythm as a musical approach to show a social and cultural relationship between their surroundings and self. I support students' ways of showing their social and cultural relationship in the making of their sounding arts with Bauer's (2000) formulation of social and cultural indicators of sound because the music, sound, and society develops social and cultural indicators.

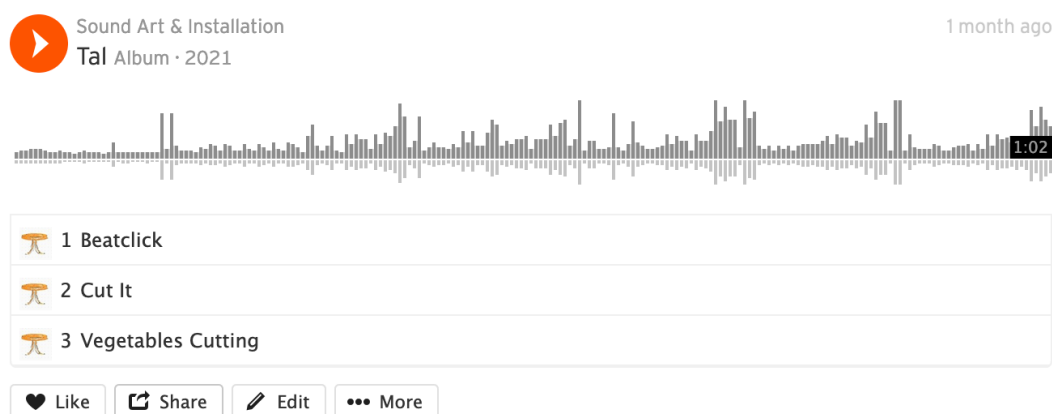
How Students Record and Compose Rhythm

In the second and third units of the curriculum, *Recording and Producing*, students explored rhythm through a music-producing method called sampling, which is an editing, looping, and manipulating technique. Students' sounding artworks were composed of elements such as rhythm, sounds, noise, and speech from their surroundings. For instance, Tal, who comes from "a family with artistic and musical

inclinations,” explored the sounds of cooking and recorded a vegetable cutting sound (carrot cutting). He showed rhythm through the repetition of the sound of carrot cutting to create a pattern. Next, he transformed the sound of vegetable cutting into a soundscape piece that incorporated electronic beats (see Figure 19).

Figure 19

Tal’s Soundscape Album, Screenshot of SoundCloud



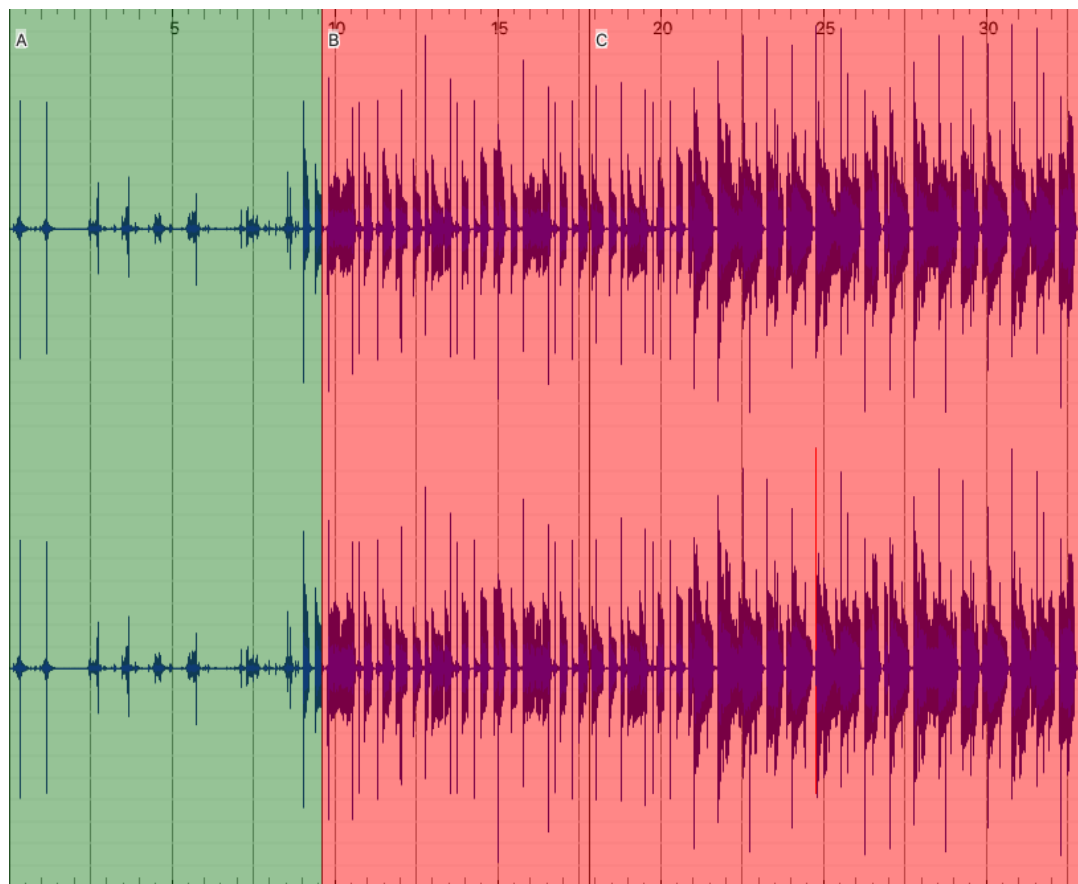
Note. Listen to Tal’s soundscape compositions here: <https://soundcloud.com/sound-art-sound-installation/sets/tal>

For example, in the following sound visualization *Cut it*,⁸³ there are two segments (see Figure 20). The green segment depicts the sound of a carrot being sliced, while the red segment depicts the rhythmic implementation of the cucumber as a soundmark of Tal’s surroundings (i.e., from his apartment’s kitchen of a carrot being cut).

⁸³ *Cut it* is named and created by one of the students who participated in this study (Tal), as part of the assignment of Lesson 8: Human/Non-Human Sounds.

Figure 20

Sound Visualization of “Cut it”

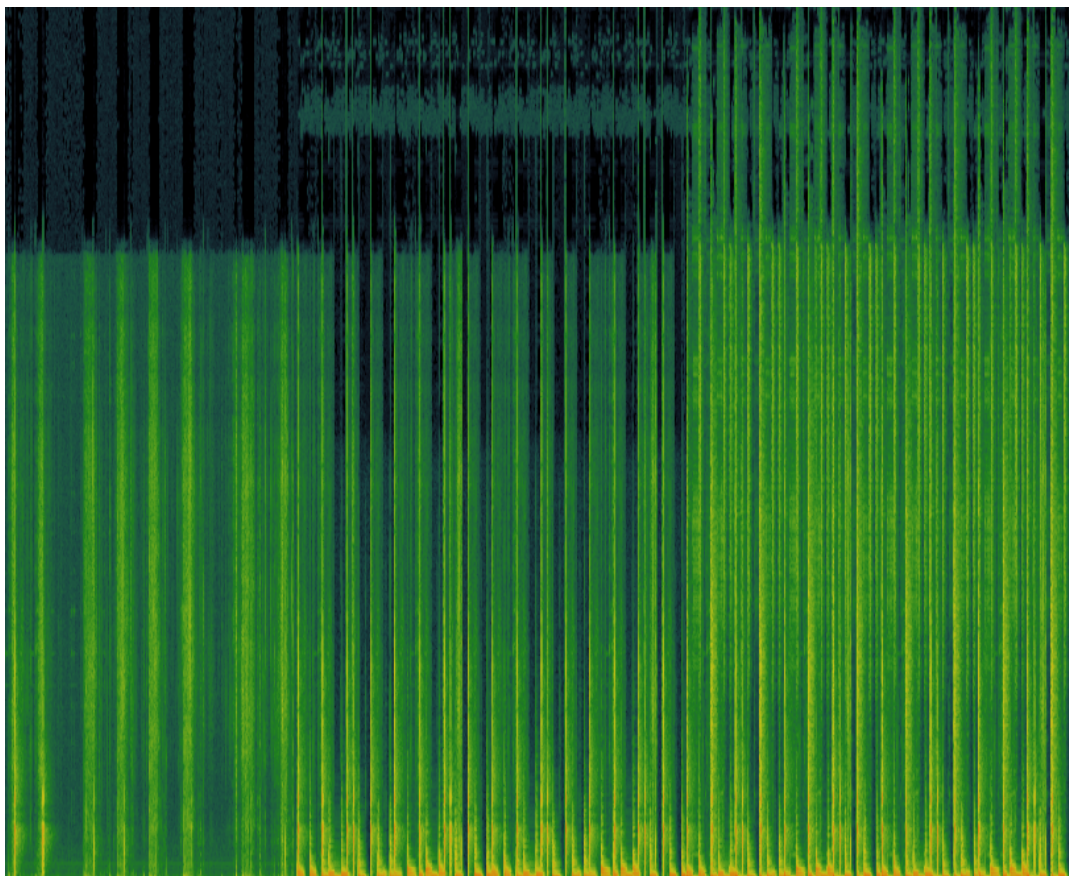


Note. In this visualization, there are two colors (sound segments) overlapped with an oscillogram graph, showing two channels—the left and right channels (left at the top and right on the bottom).

Furthermore, I visually represented the rhythmic movement of the soundscape that Tal created. The yellow vertical strokes display how often the particular sound pattern of cutting a carrot was repeated (see Figure 21).

Figure 21

Spectrogram of “Cut it”



Note. The spectrogram shows a 33 second worth of soundtrack created from student Tal’s soundscape album. On a dB⁸⁴ scale.

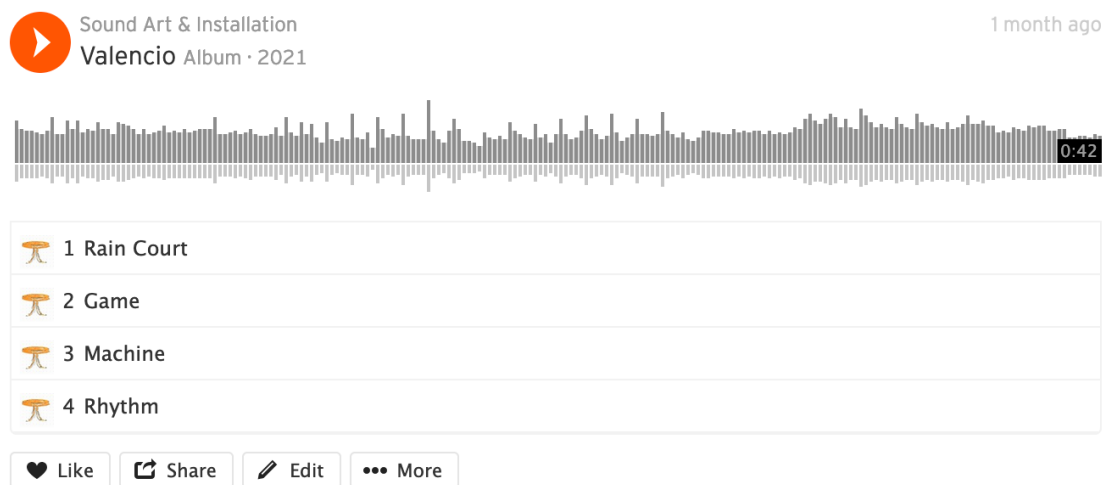
Valencio, a student in the study, explored the sounds of his place (i.e., the basketball court) and identified the following sounds: basketball dribbling, computer noise, birds chirping, rain, electrical sounds, and human voices. He recorded and produced rhythm through the repetition of the sounds of his surroundings to compose

⁸⁴ dB stands for decibel- a logarithmic unit used to measure sound level.

soundscapes. He edited his audio files using looping, layering, copying, cutting, pasting, repeating to demonstrate rhythm. He then manipulated these sounds to create rhythm in his sounding art (see Figure 22). For instance, one of the sounding artworks called “Rain Court” included repetitive sounds of birds chirping and basketball dribbling (along with the other sounds) in a loop and the sounds of rain as the background noise.

Figure 22

Valencio’s Soundscape Album, Screenshot from SoundCloud



Note. Listen to his soundscape album here: <https://soundcloud.com/sound-art-sound-installation/sets/valencio>

How Students Give Meaning to Rhythm

Rhythm was part of students’ creation of the *sounding artworks* and was shown in the way students created patterns by repeating the sounds of their place. For example, when I interviewed participant “Mila,” a high school student who used to spend most of

her time on the street before the pandemic but now spends all of her time in her bedroom and can still hear the sounds of the street, shared a description about rhythm “when I think of rhythm in my place, I think of like repeating sounds like writing and footsteps, dogs barking, cars driving by on the street, and stuff like that...”

Mila used repetitive sounds to record and produce a rhythmic composition. The soundscapes of her surroundings included cars driving by on the street and the sounds of writing with pencil on paper. As part of one of her sounding artworks called *Driving Down the Street*, Mila explained that she wanted to create a narrative for the listener, so that the listener can have a sense of what her street sounds like:

In my second audio, I wanted the listener to feel like they were driving down the street. In this one I included dogs barking, cars and bikes driving past, birds chirping, people talking, and throughout the song *Shades of Blue* by Lana Del Rey, to make it seem that the car was playing music. (Sound Journals, April 22, 2021)

Mila’s way of giving meaning to rhythm was by associating it with the repetitive sounds of her place. In other words, for Mila, rhythm was inseparable from the concept of her place, and was the most effective way of giving the listener a sense of her place through sound. The variety of repetitive and looping sounds— dogs barking, cars and bikes driving past, rain, and footsteps— shows the rich integration of rhythm with her environment and makes for a well-rounded creation of a sound composition. Furthermore, Mila’s soundmarks show social and cultural indicators of her street, supporting Bauer’s (2011) descriptions of how noise and music is related to the role of sound as social positioning.

Rhythm: Everyone Marches to the Beat of Their Own Drum

After several weeks of listening, understanding, giving meaning, recording, and creating sounds from the surroundings with students, I have become curious about how sound as a curricular tool could amplify an understanding of how we listen to rhythm. Mainly, my intention was to expand upon the students' understandings of the meaning of rhythm and think of rhythm within a new category rather than just music. In an interview, I introduced Tal with a new topic of sound which was the philosopher Lefebvre's (1992) sound theory of rhythmanalysis that investigates various understandings of space and time from everyday life experiences. I specifically told him that this term is associated with listening to systems (e.g., urban life). It starts with listening to your body, learning rhythm from it to appreciate the external rhythms of your body. Rhythmanalysis is a way to approach to our environment like a physician would, listening for rhythm, or arrhythmia (Lefebvre 1992; Mattern, 2020). I specifically asked Tal, if he had the ability to listen to the rhythm of his surroundings like a physician would, what would he hear, so he shared the following with me:

I mean, we all know the phrase, everyone marches to the beat of their own drum. I guess, it's important to think about a community aspect of that. When you think about a band, the drummer is normally who keeps the pace together. The drum have a really strong and powerful rhythm and because of that, if you think of this concept from the perspectives of a community, where everyone has a different drum, where everyone has these different ambitions, and where everyone else needs different focuses and goals. So, you're going to meet people that the same rhythm as you, they have the same beats per measure, they have the same

mindset, and then you're going to meet other people whose rhythm is just not going to click. I would say my own approach to life is that I try and understand and be wary that maybe there's some other people might not understand or vibe with the type of beat that I'm playing. But at the end of the day, we're all playing music, you know, there's no one set rhythm of life, there's no one standard beat. It's not as simple as finding a metronome, there is no metronome. So, living I guess, you just have to embrace that there's going to be some disconnect. And when you can find other people who share similar beats as you do that's great on its own. But I mean, if everyone shared the same beat, and it was just all constant, that I mean, you wouldn't have jazz you wouldn't have experimentation. And I think that's what makes life so cool. (Interviews, April 22, 2021)

In my dissertation, rhythm also functioned as an alternative way of understanding the sounds of one's surroundings. For example, students explored certain sound patterns from their places and Gabrielle mentioned about the recurring and repeating sounds of her house in response to the meaning of rhythm:

My family is pretty religious. So, like every Sunday and Saturday mornings, we clean up and listen to gospel music. That's just my mom's way of getting into the flow of things and starting her day. So that's something that I am very used to hearing at the point where I can like tune it out in a way that's just so familiar to me. (Interviews, April 22, 2021)

Identifying sound patterns from surroundings was an essential component for rhythm because its repetitive notion. Students created rhythm through repetition, which created patterns through a perceptual awareness. Rhythm was part of their soundscapes through

repetition and varying patterns within their surroundings. Students composed soundscapes of their surroundings. Composing soundscapes of their surroundings by creating rhythm, through the combination of the collected sounds such as noise, speech, machine sounds, they created a rhythmic musical piece. They displayed the characteristics of their surroundings in their composed soundscapes.

Shafer says that “the world is a huge musical composition that is going on all the time without a beginning and presumably without an ending. We are the composers of this huge miraculous composition that is going on around us” (Listen, 2009, 2:40). Similarly, students in my study showed that by listening, understanding, and giving meaning to the sounds of their surroundings, they can compose soundscape albums to show what is going on around them.

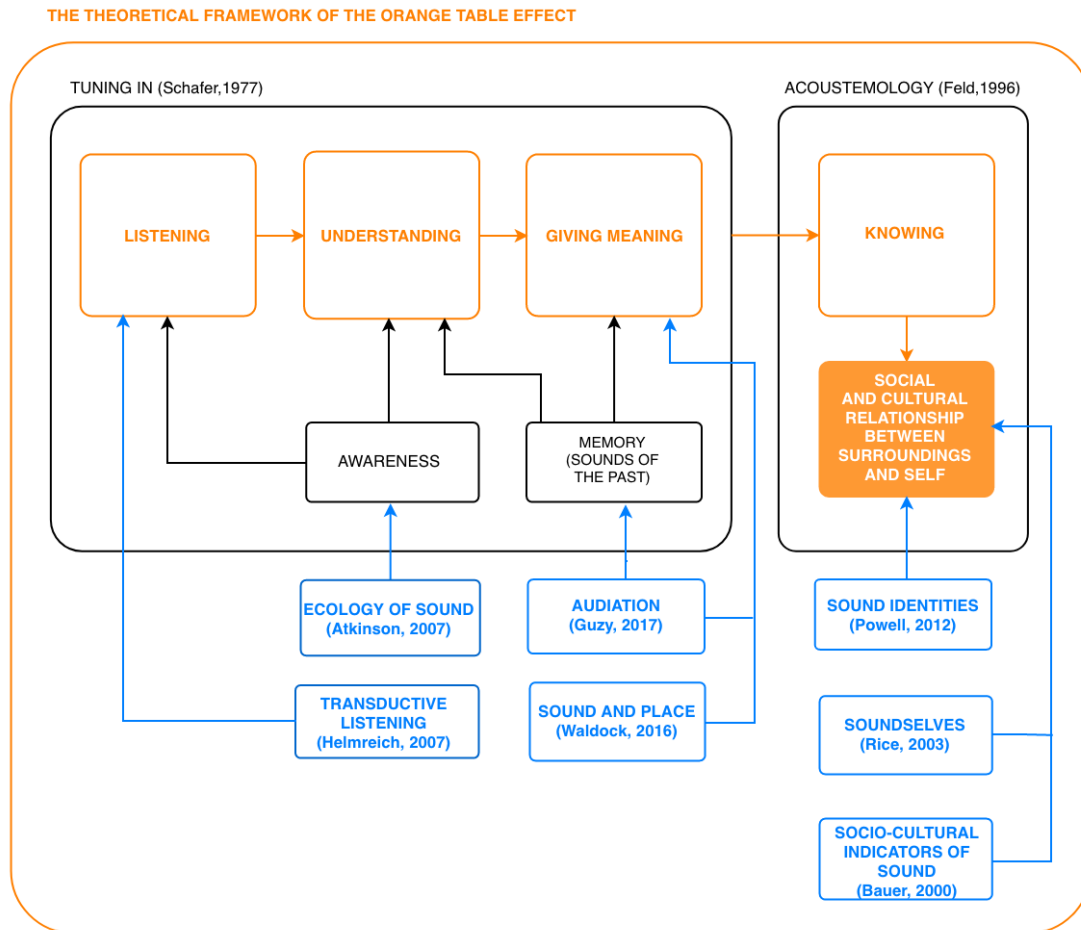
In the next final Chapter Seven: Interpretations and Implications, I provide a brief summary of my dissertation, revisit my theoretical framework of The Orange Table Effect, write about the implications for art education through sound data visualization, and conclude with final thoughts on further ideas for future research.

CHAPTER SEVEN:

INTERPRETATIONS AND IMPLICATIONS

In my dissertation, I inquired into using sound as a curricular tool in art education to expand students' understandings and conceptualizations of the relationship between their surroundings and self. I created the conceptual framework⁸⁵ of The Orange Table Effect to show my relationship between my childhood home and self. To create The Orange Table Effect, I relied on the steps of listening, understanding, and giving meaning to the sounds of my surroundings through the use of memory and awareness. This was a key part of the design of my dissertation due to the concepts, assumptions, beliefs, and theories of The Orange Table Effect that inspired, supported, and informed the purpose of researching sounding art as a way of knowing (Maxwell, 2013). I wrote about The Orange Table Effect and created a digital mind map (both visual and written product—a flowchart) to explain the process of my research. This process led me to develop the following theoretical framework of The Orange Table Effect (see Figure 23).

⁸⁵ See Figure 2, back in Chapter Two: Sound Epistemology.

Figure 23*The Theoretical Framework of The Orange Table Effect*

Note. The framework above is identical to Figure 2 (The Conceptual Framework of The Orange Table Effect) with additional support theories shown in blue.

The above flowchart illustrates how the conceptual framework is informed by the sound theories and refers to the ideas and beliefs I hold about the sound phenomena—sound as ways of knowing a social and cultural relationship between place and self—I researched.

Specifically, I conceived of The Orange Table Effect as the framework for my research with students. This theoretical framework undergirded their soundscape albums and all of the other curricular activities that I developed for my research. The essential advantage of creating soundscapes was that each sound production served as part of sounding art pedagogy. Exploring the sounds of our environment shows complex sonic ecologies, and such research was essential because sound can amplify in new ways of how we listen, understand, and give meanings to the sounds of our surroundings. Sounds capacity to perform as pedagogy informs relational knowledge about places and self.

The design of my dissertation's theoretical framework, which is grounded within The Orange Table Effect, shaped the purpose of my research, sound as ways of knowing, through sound theories and methods (colored in blue). It also showed how my research had evolved as I conducted my study. For example, Atkinson's (2007) term of the ecology of sound supported the notion of awareness, which also contributed to students' ways of listening and understanding the sounds of their surroundings. Audiation carried the notion of memory (sounds of the past), which supported students understanding and giving meaning to sounds of surroundings. Rice's (2001) concept of the soundselves appeared within the ways students gave meaning to sounds of their places. Powell's (2009; 2012; 2015) ethnographic research about sound-constructed identities played a key role in the way that students identified noise and sound based on their individual social and cultural experiences.

Noise is Everything and Everything is Noise

Instead of avoiding noise, students embraced it as a way to create rhythm, as described in Chapter Six: Rhythm. Noise was, therefore, an important component in the soundscape albums that students created as a way of knowing about their surroundings and self. For instance, noise is not necessarily a negative experience, as student Gabrielle explained below:

I just feel very comforted by the sounds. I would define the sounds of my place as noise, but I don't think noise necessarily a bad thing. I feel like it's good noise, joyful, energetic. Sometimes the chatter is annoying, but mostly comfortable and grounding, nostalgic as well. (Sound Journals, March 4, 2021)

Gabrielle's descriptions show that her identity is constructed with the sounds of her home because she associates the sounds and noise with familiarity and warmth which has direct connections to her family and their everyday life experiences. Powell (2015) wrote about this experience as sound-constructed identities⁸⁶ in which an individual is "composing identities" (p.114).

To further develop the use of acoustemology of place (a key component of my study), I explored sound-constructed identities (Powell, 2007). The following conversation, taken from an interview with Tal revealed how his sound identity was positioned (Powell, 2012) in relation to his family background. Tal shared with me that

⁸⁶ In Powell' (2015) ethnographic study of taiko drumming "as a practice of sound knowledge" (p. 112) in the Asian-American community, Powell mentions that taiko drumming has an important role in Asian-American politics. While the students in my study came from highly diverse ethnicities and backgrounds, I chose to not reveal this information about the students for IRB purposes (see Appendix A, B, and C), so it was not included in the research. Further study, however, could show the connections between students' identity and their sounding artworks.

he comes from a family of musicians, and he represented this connection by creating a musical soundscape called *Cut it*, in which he used a synthesizer to transform the sounds of cucumber cutting into a rhythmic sounding artwork.

Similarly, as discussed in the introduction of this dissertation, experiencing The Orange Table Effect has given me lasting memories of growing up in my parent's hillside apartment; and it represent my unique sound-constructed identity (Powell, 2015). I acknowledge that my reality is different from the New York City youth of today, but I also believe that the sounding art curriculum I lived as a child likely found many parallels in the experiences of NYC youth. For instance, the sounds from the streets of İzmir are embedded in my memories, just as the city sounds of New York played a big part in the sounding arts of the students, such as Mila's *Walking Down the Street* and *Driving Down the Street* soundscapes that she used in her sound album.

In my research, students showed that specific sounds are connected to their experiences, and students' experiences were often drawn from the meanings of their everyday life knowledge (Gershon, 2011; 2018). By the notion of the sounds of a social context of one's surroundings, Gershon wrote that the form of text (writings) gives individuals a voice to express their culture and the meaning of their world. Similarly, students in my study, used sound journals, as a way to voice their own individual descriptions and meanings of the sounds of their surroundings.

My study further supported students' ways of understanding and knowing a social and cultural relationship between their surroundings and self because of the ways they imbued the sounds with meaning. For example, in an interview, participant Brian, who had to leave his home and move to a new one due to the pandemic, described a city sound

he selected from the Sound Orchestra as “nostalgia,” “warm, a sense of nostalgia,” “a sense of longing and comfortability, yet an opposing feeling of moving on and finding something new” because it reminded him of a place he had visited in the past.

Furthermore, Guzy’s (2017) methods of audiation supported the way students used memories to give meaning to sounds as they “ruminated upon the sounds of the past” (para. 3). For example, after the Sound Orchestra listening activity, another student “Penny,” described her experiences as “resonating” and “immersing.” She shared the following memory from her childhood that was brought on by the classical music sounds in the activity:

I can instantly think of a memory that when I was in an arts camp. The arts camp would have performances and sometimes, I would play in orchestras. Another memory I have is when I was in elementary and middle school, I went to like a single school, and they had totally different shows. I was involved in singing or play instruments. It just felt like very powerful back then as, because of the strong sounds. (Conversations, February 18, 2021)

Penny’s reflections upon her childhood memories connect to Guzy’s (2007) theory of audiation, as “it can relay meaning, emotion, memory, and facts through...music” (para. 3).

Another student, Gabrielle, remembered the sounds of her surroundings from pre-pandemic times and wrote about a memory when I asked all participants in my sounding art curriculum to think of a sound event from their past and write down their responses in their sound journals. Gabrielle shared the following:

When I think of sounds from the past, I think of gospel music. My mom would play Mary and Mary or Kirk Franklin every Sunday, Monday (other days too), when we went to the church, we we'd be there all day. (Sound Journal, February 11, 2021)

In a later interview, “Gabrielle” shared that although gospel music is not of particular interest to her, she thought about the experience as “it’s a lot of like, affirmations,” and “a sense, you feel community of sorts.” Similarly, Guzy (2017) explains that “sound, when understood as an environment, is a soundscape: a powerful tool that helps humans relate to their surroundings (para. 3). Gabrielle went on to describe the sounds of her home in the following way:

The noises are sort of the city noises. There are constantly cars going by, you know, people driving, walking their dog, riding bikes, noises from neighbors, sometimes there is parties. Even from inside my house, I have, like people that I live with, they are talking, listening to the TV, or cooking, or just listening to music. (Interviews, April 22, 2021)

As you read Gabrielle’s descriptions of the soundscapes of her environment, “you likely heard the sounds described in your mind, a process called audiation” (Guzy, 2017, para. 3). In other words, Guzy argues that “mental sonic imagery illustrates the power of sound” as a way to relay meaning, even if the sounds are independent of memory. Also notice that Gabrielle’s soundmarks of her home “illuminate aspects of her...personal background and culture” (para. 6).

Moreover, in Gabrielle’s description of the sounds of her home, she shows that she is subject to imposed sound all around her, similar to the patients in Rice’s (2003)

soundselves study, who are subject to the noises of the infirmary that are imposed upon them. Unlike the patients in Rice's study, however, "Gabrielle" gave a positive meaning to the noise of her home (her surroundings), describing it as "good noise," "very joyful," and "energetic." Gabrielle's comments represent a common theme among the students in my research, who also described the noise of their environments in a positive way. For example, in an interview, student Lucas described the noises of his bedroom as "calming," and shared the following:

You can hear all the sound, it's noisy, and the way that you know is that I would mostly say that's because of the heater in my room, it is super loud. So, I feel like that's definitely something that's unique to my room, and there is definitely kind of always an ambiance to like, we're trapped with like the sounds of cars rolling by and the wind and the tire sound on the ground. There definitely is a calming kind of thing because it's kind of just reminds me of where I am in a way. You know, I'm in my room, you know, hearing those sounds is kind of very homy. If I'd hear the kind of sounds in my ears that are made somewhere else, it will really remind me of my room. (Interviews, April 22, 2021)

Mixing Music that May Be Estranged from the Milieu

The process of creating the soundscape albums empowered students by giving them a way to voice the social and cultural experiences of their daily lives. They did this by mixing their favorite music (or song) with the sound recordings from their favorite places/current surroundings. Students' sound recordings included a variety of social and cultural indicators of the sounds of their places. Some of them re-created the sounds of

the past of from the streets in front of their homes, and some recorded the present sounds from their bedrooms or kitchens. One common experience they all had was that they were all tuning into a time and place by mixing music that may be estranged from the milieu due to the pandemic because the pandemic had caused significant social and cultural changes in our current world. Whether the soundscape albums that the students created may no longer feel close or affectionate within the pre-pandemic times, finding connections to a specific time period through sound will be up to the listener and what the listener experiences when they hear the students' sounding arts/soundscape albums.

Implications for Art Education

In my dissertation, students' descriptions of the sounds of their surroundings showed that turning our attention to our environment's sounds by using multiple senses (e.g., listening, hearing, using both eyes and ears) can teach us to transform our minds and gain a more conscious understanding of the world. In my capacity as an art educator, I brought attention to the theory of tuning in by asking students to compose soundscapes of their surroundings and the theory of acoustemology of place to show students' social and cultural relationship between the self and place (surroundings) because these two theories support shifting the way we frame (listen, understand, and give meaning) the sounds of our environment (Feld, 1996; Schafer, 1977).

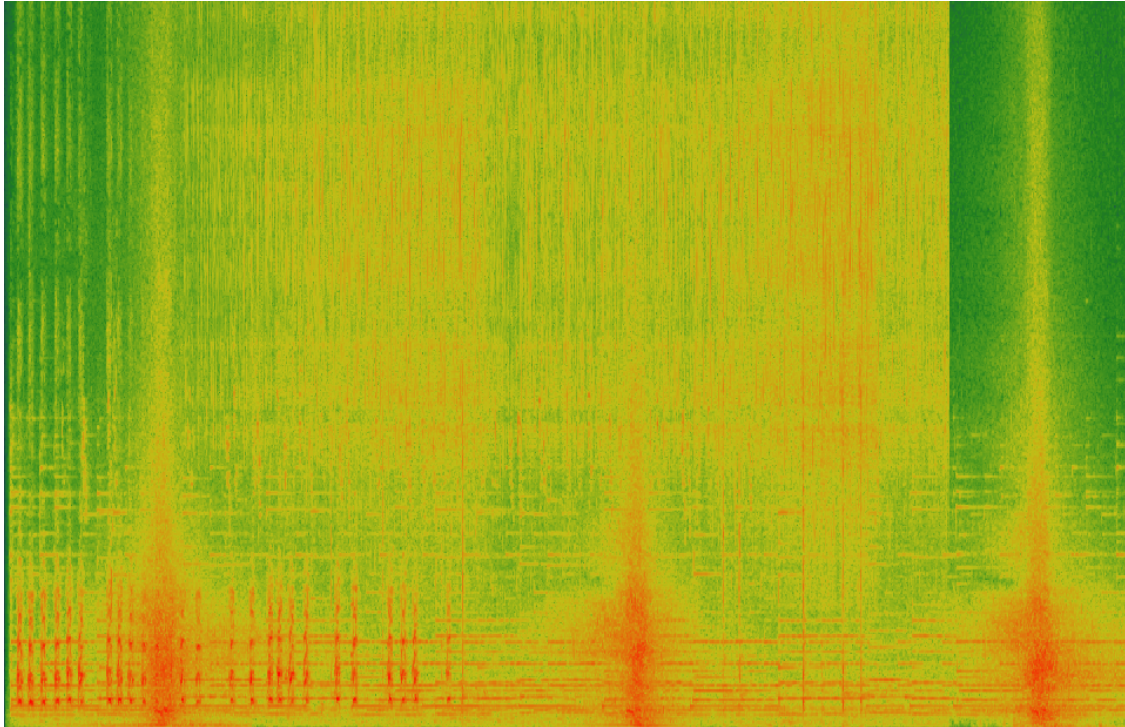
Furthermore, my research explored the possibilities of using sound as a way of knowing about a social and cultural relationship between self and place in art education through the making of sounding art and the teaching of sounding art as research pedagogy. The sounding art curriculum I developed and designed is sound as pedagogy

in art education. I incorporated visual arts components such as interpreting art (analyzing theories used to convey meaning), developing works of art (using methods of experimentation), and relating art to context (personal, social, cultural perspectives) (edTPA Visual Arts, 2016; National Core Arts Standards, 2016). For example, inspired from the making of the sounding art processes and as part of my research's data creation process, I interpreted one of Mila's sound recordings from her soundscape album to display her social and cultural relationship in a colorful image, visually. In her soundscape, Mila included soundmarks such as dogs barking, cars and bikes driving past, birds chirping, people talking and the song *Shades of Blue* by Lana Del Rey (see Figure 24). In her own words Mila writes about the context of her soundscape as follows:

I wanted the listener to feel like they were driving down the street. In this one I included dogs barking, cars and bikes driving past, birds chirping, people talking, and throughout the song *Shades of Blue* by Lana Del Rey, to make it seem that the car was playing music. (Sound Journals, April 22, 2021).

Figure 24

Sound Visualization of “Driving down the Street” in Spectrogram



Note. Mila’s soundscape of the street in front of her home. Orange color over green depicts dogs barking, while the lighter orange areas represent the sounds of cars and bikes passing by in the distance.

The sound data visualization supports the National Core Arts Standards’ (2015) components of interpreting art through analyzing art-making approaches and theories to convey meaning. The sound visualization approach helped me understand students’ ways of knowing through sound. Additionally, in a future research study, this approach can be introduced to students to for an exploration of the relationship between image and sound.

For example, in a recent article, Bertling et al. (2021) wrote that “whether human or more-than human experience, communicated in visual form, data visualizations are well within the realm of visual art and art education” (p. 44). Similarly, in my practice-related research, as a response to the soundscape albums students created, I explored the sounding art of The Orange Table Effect⁸⁷ through sound data visualization. The data visualization process is explained as “the visual representation of data in order to uncover and understand trends and patterns” (Klein, 2014, p. 27). Similarly, by visualizing the sound data of my research, my intention was to uncover and understand sound’s capacity to convey knowledge about a social and cultural relationships between self and place.

In my soundscape album of The Orange Table Effect, I show my social and cultural relationship between the self and place. To achieve this, I re-created the sounds of my past, along with a “personally relevant data visualization” (Bertling et. al., 2021, p. 47) by recording the sounds of my sister, Tuğçe and the sounds of her children Mira and Aras Era, their friend, the sounds of the nanny, all of their conversations and talks while having lunch at the kitchen table in the summer of 2021. I layered the background of these sounds with a portion of Barış Manço’s pop-rock Turkish song called Domates, Biber, Patlican⁸⁸ (by looping it) to create a brand-new sound recording⁸⁹ to show the context of The Orange Table Effect in music.

⁸⁷ You can listen to The Orange Table Effect in the following link: <https://soundcloud.com/sound-art-sound-installation/sets/the-orange-table-effect>. I wrote about the process in Chapter Three: The Making of Sounding Art and showed visuals in Figure 2 and Figure 3.

⁸⁸ Domates, Biber, Patlican is a song that was originally produced in 1989, and an example that shows Manço’s interpretation of the cultural indicators of Turkey in his music.

⁸⁹ <https://soundcloud.com/sound-art-sound-installation/the-orange-table-effect-1>

Moreover, sounding art curriculum focused on sound methods as a form of art, which provided a platform for youth to establish a relationship between their surroundings and self, and an opportunity to express their artistic skills during the pandemic. Through the creation of their sounding artworks, students revealed the ways in which they listened, understood, and gave meaning to the sounds of their environment, and created a relationship between self and place.

The sound curriculum outlined in this study suggests that sound-based art offers important pedagogical implications for art education through a new medium (sound) for artmaking. Using sound art methods such as listening, recording, and producing soundscapes provides students to experience the daily sounds of their environments in a new and personal way. Creating soundscapes of places deepens students' engagement and supports students to creatively explore, listen, understand, and give meanings to the sounds of their surroundings.

My practice-related research was created through the making and the teaching of sounding art as a way to embody creative art methods (listening, recording, and producing), soundscape albums, and sound visualization for the field of art education also opens doors for new research for what changes can be implemented in the visual arts through a virtual exploratory model of sounding art making, teaching, and learning for creative self-expression (Carpenter & Tavin, 2010). For example, in a future research study, the personally relevant sound data visualization approach could be where K-12 art education students explore sound data visualization methods to expressively communicate untold stories of their everyday life experiences.

I argue that the pedagogical strategies, tools, and methods might guide learners to listen to their environments based on their social and cultural experiences critically. Gershon's (2018) conceptualization of sound curriculum as a way that allows text, talk, and conversation for exploring music supports my arguments about how sound can be a medium for pedagogical approaches in art education. Gershon (2018) wrote that music and curriculum work together and discussed that the current educational system is not organized as music or talk but is structured as sound, noise, and silence. He describes that sound methodologies and all other "methodologies lie in using sounds to express research findings" (Gershon, 2018, p. 155). Gershon's explorations of talk, text, and conversation in classrooms further support my proposed pedagogical strategies of teaching sounding art curriculum in art education. The association of sound as conversation and conversation as noise is a fascinating way to think about communication and sound as a social and cultural phenomenon. When considering urban environments' social sounds, we should consider noise in the following forms: enabled, heard, experienced, and constrained (Bull, 2000).

The findings of my study, as discussed in Chapter Five: Listening and Noise and Chapter Six: Rhythm, reveals the findings from my research's data creation processes. The creative process of composing soundscapes, further justifies how my research is primarily about the students learning to become listeners through the practices of listening, recording, and producing soundscape albums that show how they know a social and cultural relationship between their surroundings and self. The sounding art practices of listening, recording, and producing to create soundscapes not only gave students a new way to experience the daily sounds of their environments, but also showed how they

listen, understand, and give meaning to the sounds of their surroundings through memory and awareness.

While the purpose of my dissertation was to research sound as ways of knowing a relationship between the self and place, the central focus of the sounding art curriculum was to practice the sounding art methods of listening, recording, and producing soundscapes of places. The learning segment of the sounding art curriculum provided students a platform to explore new art-making approaches through the steps of listening, understanding, and giving meaning to the sounds of their surroundings. By creating the soundscape albums, students tuned into their surroundings recognizing social and cultural indicators as soundmarks.

Impact of the Pandemic on Students' Soundscapes

In my dissertation, soundscapes refer to an individual's sonic environment and everyday life experiences. Schafer's (1977) terminology helped me express the idea that soundmarks of a place can also address new knowledge that the researchers can further explore through sound theories. However, the students involved in my study also demonstrated that Schafer's (1977) ideas about listening (the theory of tuning in) need further development, discussion, and new perspectives of listening and hearing our environment's sounds with greater awareness. Expanding the idea of tuning in by creating a relationship between self and surroundings (giving meaning, perceptual awareness, and sonic knowledge) allowed students to become more engaged with artmaking in virtual settings and stimulated a sense of self-exploration.

More importantly, creating the soundscape albums of the environment during the Covid-19 pandemic, which is one of the most challenging times of this world we have faced in our lifetime, provided students a way to express their creativity. It is above all an important time that also brought attention to re-consider the validity of the tuning in theory (Schafer, 1977), which argued that the soundscape of one's environment changes depending on the time of day, the weather, and activities. However, Schafer's theory did not consider the impact of social, cultural, and political issues of the environment and/or the movements of society such as Black Lives Matter (BLM) movement, a pandemic, or immigration which profoundly changed the soundscape of the environment.

Additionally, according to an article in the N.Y. Times, COVID-19's impact on New York City's soundscape was highly evident as people's listening experiences were heightened and they tuned into their surroundings differently (Bui & Badger, 2020). Further study could be conducted to see if students from different types of environments give a positive meaning to noise. For example, the students in my study were immersed in a lo-fi environment because they live in New York City. Schafer (1977) wrote that lo-fi soundscapes originate from an experience called "sound congestion" (p. 1361) because the sounds of socio-economic activities and technology increase the urban noise levels in cities. However, if the students had lived in a hi-fi environment, "where all sounds may be heard clearly without being crowded or masked by other sounds and noise" (Schafer, 1977), such as a small town or a rural area, their meaning of noise might have been different than it was for the students in a metropolitan area. Additionally, the framework of tuning in that I used in my study embodied the relationship between students and the sounds of their environment, which was limited to one place for each student (their

home) because of the restrictions on movement imposed by COVID-19. However, my online sounding art curriculum provided a critical art structure for students when using technology and website-based instructions in the structure of remote teaching and learning as well as a way for youth to express their relational knowledge of surroundings and self during COVID-19.

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Appendix A

IRB APPROVAL



PennState

Office for Research Protections
 Vice President for Research
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EXEMPTION DETERMINATION

Date: January 11, 2021
From: Stephanie Krout,
To: Ilayda Altuntas Nott

Type of Submission:	Initial Study
Title of Study:	Tuning in Art Education: Sound Art and Sound Installation
Principal Investigator:	Ilayda Altuntas Nott
Study ID:	STUDY00016837
Submission ID:	STUDY00016837
Funding:	Not Applicable
Documents Approved:	<ul style="list-style-type: none"> • Interview Questions (1), Category: Data Collection Instrument • methods (1), Category: Data Collection Instrument • New Study (2), Category: IRB Protocol

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are **not** required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

Penn State researchers are required to follow the requirements listed in the Investigator Manual ([HRP-103](#)), which can be found by navigating to the IRB Library within CATS IRB (<http://irb.psu.edu>).

This correspondence should be maintained with your records.

We would like to know how the IRB Program can better serve you.
 Please fill out our survey; it should take about a minute: <https://www.research.psu.edu/irb/feedback>.

ID27

Appendix B

CONSENT FORM TEMPLATE PAGE 1

Consent and Assent Agreement for Parents and Participants
The Pennsylvania State University

Title of Project: <<Sound Pedagogy: Tuning in Art Education>>

Principal Investigator: <<Ilayda Altuntas>>

Telephone Number: <<413-835-1571>>

Faculty Advisor: <<Dr. Kimberly Anne Powell, 814-571-1134>>

Faculty Advisor Telephone Number: <<Dr. Karen Keifer-Boyd, 814-404-8716>>

You are being invited to volunteer to participate in a research study. This summary explains information about this research.

Using Sound to Enhance Art Education for the Empowerment of New York City Youth during the Time of COVID19 and the Black Lives Matter Movement:

While the coronavirus outbreak continues shaping and shifting the values of our lives, young people may be facing with a number of larger socio-cultural and political concerns (Giroux, 2009). The purpose of this arts-based research is to help New York City youth to express and explore their identity, language and sociocultural background using the methods of listening, producing and recording the sounds of their own choice of environments. The creative process of art making (creating/curating soundscapes of our environments) will provide a platform for youth to establish a sense of self-empowerment and to develop their artistic skills in visual arts during the time of pandemic. Through this study, I aim to meaningfully contribute to the field of art education by exploring the meaning of *silence, noise and rhythm* from the sounds of environments. The research will explore new ways to think about how cultural topics such as diversity, race, gender and identity can be expressed through composing soundscapes. Considering the life-altering disruptions occurring across the U.S., my study will raise awareness to the issues of ignored injustices through an exploration of *noise* within the composed soundscapes from our environments.

Brief description of the learning segment:

Project I: Experiencing Sounds of Our Environment: Listening and Hearing Practices

- Participants will practice listening methods and will identify/choose a place, space or an environment. Participants will be asked to listen to the sounds of their environment, take notes of the sounds (keep a sound diary— use their senses to record all they experience (sounds and sights)- these sound diaries will be collected at the end of the project.
- Participants will create sketches in their sound diaries (notebooks) using coloring, drawing techniques that show the predominant colors, shapes, figures, objects from the indoor/outdoor scenes of their environment.
- Participants will experiment with listening practices: giving words to the late-night sounds, morning noises, birdcalls, conversations, talks, car horns, and music we hear., human and non-human sounds; noting any specific, precise, concrete details about the world around them.

Project II: Expanding our Sound Experiences of the Environment: Recording and Creating Sounds

- Participants will practice sound recording techniques using a mobile phone with a sound recording app (e.g., QuickVoice, Voice Recorder & Audio Editor) or an audio recorder (e.g. Zoom, if applicable).
- Participants will record sounds from the environments they chose.
- Participants will learn about the elements of music: rhythm, harmony, and melody looking at composer's work such as Murray Schafer, John Cage, Christine Sun Kim, Susan Philipps, Alvin Lucier and etc.)

Appendix C

CONSENT FORM TEMPLATE PAGE 2

Project III: Art Making and Sharing Sound Experiences of Our Environment: Producing, Editing and Composing Soundscapes

a computer with sound editing software (e.g. audacity)

- Participants will overview their sound notes and sound sketches from the listening projects and share the stories and experiences of sound from their environments and communities.
- Participants will brainstorm about the recorded sounds of their environments from the previous works.
- Participants will learn about mixing/re-mixing methods as it is the process of editing and arranging audio clips using an open source software.
- Participants will arrange the recorded sounds of their environment in the sound-editing software (e.g., Audacity).
- Participants will use the recorded sounds of their environment to create a composition of soundscapes.

Interviews with Participants:

Participants will be scheduled to meet with the researcher, Ilayda Altuntas via Zoom every Thursday from 4-6 p.m. The Zoom sessions will be recorded, and the participants will have access to the recorded sessions.

There is a risk of loss of confidentiality if your information or your identity is obtained by someone other than the investigators, but precautions will be taken to prevent this from happening. The confidentiality of your electronic data created by you or by the researchers will be maintained as required by applicable law and to the degree permitted by the technology used. Absolute confidentiality cannot be guaranteed.

All confidentiality of records identifying the participants will be maintained in researcher's personal computer. Information collected in this project may be shared with other researchers, but we will not share any information that could identify you.

If you have questions, complaints, or concerns about the research, you should contact <<PhD. Candidate, Ilayda Altuntas>> at 413-835-1571 or <<Dr. Kimberly Powell, 814-571-1134, Dr. Karen Keifer-Boyd, 814-404-8716>> If you have questions regarding your rights as a research subject or concerns regarding your privacy, you may contact the Office for Research Protections at 814-865-1775.

Your participation is voluntary, and you may decide to stop at any time. You do not have to answer any questions that you do not want to answer. Your participation implies your voluntary consent to participate in the research.

Signature of Parent(s)/Guardian for Child

By signing this consent form, you indicate that you permit your child to be in this research and agree to allow your child's information to be used and shared as described above.

Printed name of child

Signature of Parent/Guardian _____ Date _____ Time _____ Printed Name

Signature of Student/Participant _____ Date _____ Time _____ Printed Name

Appendix D

INTERVIEW QUESTIONS

1. Introducing questions:

- Can you tell me about the environment you chose?
- What is this environment like? Can you describe it?
- What are the sounds of this environment?
- What qualities does this environment have?
- How would you describe the sounds of your environment?
- Do you remember an occasion when you experienced a specific sound event?
- What was this event like?
- How did you or do you negotiate with sounds in your environment?
- How do you visualize the sounds of your environment?

2. Follow-up questions:

Direct questioning of what has just been said, nodding, "mm", repeating significant words...

3. Probing questions:

- Could you say something more about the sounds you have just mentioned?
- Can you give a more detailed description of the sounds concerning your environment and events?
- Do you have further examples of this?

4. Specifying questions:

- What did you think about the sounds then?
- How do you describe the sounds you hear?
- Are they human sounds or non-human sounds?
- Can you give examples of human sounds of your environment?
- Can you give examples of non-human sounds of your environment?
- What did you do when you felt the sounds of your environment?
- How did your body react to the sounds? In terms you're the way you were feeling.

5. Direct questions:

- Have you ever felt affected by any noise or sounds in your environment?
- When you mention your feelings, do you then think of what, silence, or joy?

6. Indirect questions:

- How do you think that sounds you may *not* have noticed could have affected you or had an effect on you and others?
- How do you think that sounds you may *have* noticed could have affected you or could have an effect on you and others?
- How did these sounds affect your way of understanding the environment you are in?

7. Structuring questions:

"I would now like to introduce another topic of sound: "Listening to Systems: Rhythmanalysis: a way of mediating urban perception with one's physical presence. Start with listening to your body, learning rhythm from it to appreciate the external rhythms. Rhythmanalysis is a way to approach to our environment like a physician would, listening for rhythm, or arrhythmia."

- Can we brainstorm ideas about rhythmanalysis?
- If you knew about this approach, how do you think you would apply it to your daily sound and life practices?

8. Silence:

Allow pauses for the interviewees to have ample time to associate and reflect and break the silence themselves.

9. Interpreting questions:

- You then mean that.....?
- Is it correct that you feel that...?
- Does the expression..... cover what you have just expressed?

Appendix E

COURSE DISTRIBUTION POSTER

Pratt

K-12

SOUND ART & SOUND INSTALLATION



117 prepared dc motors, 21 kg wood, 170m rope, Zimoun, 2016

FREE ONLINE CLASS FOR HIGH SCHOOL STUDENTS

Thursdays, 4:30-6:30

February 11-April 22

Create sound art pieces using a wide range of materials including string, wire, mini-electric motors, rubber bands, ping pong balls, balloons, wooden sticks, and more!

Explore sound and place through listening and recording practices; learn how listening and hearing practices emerge from processes that involve silence, noise, and rhythm.

Examine the work of sound artists such as Ellen Fullman, Alvin Lucier, Susan Philipsz, Janet Cardiff, Zimoun, and John Cage.

Tech requirements:

- A laptop computer, Chromebook or tablet with built in microphone to edit, remix & record sounds
- A stable internet connection
- Ability to run GarageBand, WavePad or Audacity
- Ability to participate in class sessions held on Zoom


Visit our website www.pratt.edu for additional information.

Click [here](#) for the online registration form.

Tel: 718.636.3654 k-12@pratt.edu @PrattYouth

Appendix F

COURSE REGISTRATION FORM



[THE INSTITUTE](#)
[THE WORK](#)
[ACADEMICS](#)
[ADMISSIONS](#)
[STUDENT LIFE](#)
[ALUMNI](#)
[NEWS](#)
[EVENTS](#)
[GIVING](#)
[Q](#)

SOUND ART AND SOUND INSTALLATION

... / CENTER FOR ART, DESIGN, AND COMMUNITY ENGAGEMENT K-12 / SOUND ART AND SOUND INSTALLATION

Sound Art and Sound Installation is an after school program that introduces students to the concept of the art of sound-making and recording. Students will create sound art pieces using a wide range of materials including string, wire, mini-electric motors, rubber bands, ping pong balls, balloons, wooden sticks, and more! Students will explore sound and place; learning how listening and hearing practices emerge from processes that involve silence, noise, and rhythm. The class will examine the work of sound artists such as Ellen Fullman, Alvin Lucier, Susan Philipsz, Janet Cardiff, Zimoun, and John Cage. Classes are taught by Nayda Altuntas in collaboration with Pratt Institute and Penn State University.

ELIGIBILITY

Students attending New York City high schools are eligible to apply if they:

- Demonstrate an interest in art and design;
- Obtain their art teacher's or school administrator's recommendation on the registration form.

TECHNOLOGY REQUIREMENTS & SUPPLIES

In order to participate in online classes, all participants are required to have access to:

- A laptop computer, Chromebook or tablet with a built in camera and microphone to record sounds;
- A stable internet connection;
- Ability to run Garage Band, WavePad or Audacity;
- Ability to participate in class sessions held on Zoom

PLEASE NOTE: IT IS THE STUDENT'S RESPONSIBILITY TO CHECK THAT THEY ARE ABLE TO MEET THE TECHNOLOGY REQUIREMENTS.

Classes are free of charge, and all materials required for participation (except technology) will be provided at no expense to enrolled students who have:

- Submitted a complete application;
- Committed to attendance in all classes;
- Received a teacher's recommendation

HOW TO APPLY

[Apply Now](#)

Enrollment for the Sound Art and Sound Installation classes for the Spring 2021 semester will begin on December 14. Classes will run from February 11 - April 22, 2021.

CONFIRMATION

After registration closes, those who have secured a place in a class will receive a confirmation email, so please make sure the email address you provide is accurate. Student emails cannot be '.edu' or '.org' emails. Please provide a non-school email for use in class enrollment.

CLASS SCHEDULE

Classes meet on Thursdays from 4:30 - 6:30 PM.

PARENT AND STUDENT HANDBOOK


All students attending classes hosted by the Center K-12 must follow the policies as listed in the Center K-12 Family Handbook. Read the [program policies](#) prior to the beginning of classes.

CALENDAR

For a complete listing of class dates, see [Calendar](#) to learn more.

CONTACT

Center K-12, South Hall, Room 203
 Pratt Institute, Brooklyn Campus
 200 Willoughby Avenue, Brooklyn, NY 11205
Email: kc-12@pratt.edu
Tel: 718.656.3654 | **Fax:** 718.230.6876



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the Arts**

Appendix G

MANIFEST SHEET FOR SHIPPING

In this box you will find:

- 1 scissor (westcott, Pointed, 5")
- 1 wooden block cube (2x2x2)
- 1 aluminum wire (32.8 feet, gold, 1.5 mm thickness)
- 1 wood tray (box)
- 1 notebook (sound diary)
- 1 pre-assembled mini electric motor
- 4 pieces of violin strings (nickel-silver wound)
- 1 Faber-Castell Pencil (9000 Graphite, 2B)
- 1 pre-assembled mini electric motor (rubber bands)
- 3 pieces of mini brown card box
- 1 wooden plate
- 1 set of cut strings (white cotton and brown jute twine)
- 3 ping pong balls (40mm, 2.4g)
- 1 pack modeling clay (crayola 8 colors inside)
- 8 Balloons (12 inches)

For the "producing" part of our course you will create sound art pieces using the above materials.



VITA

EDUCATION

- 2017-Present **The Pennsylvania State University**, Ph.D. Candidate (passed defense on August 12, 2021)
Department of Art Education; minor in Curriculum & Instruction
Co-Advisors: Dr. Karen Keifer-Boyd & Dr. Kimberly Powell
Members: Dr. Yasmine Abbas, Dr. Eduardo Navas
*With expected graduation in December 2021
Thesis: Pedagogy of Sound: Tuning in Art Education
Sound Art and Sound Installation at Pratt Institute, <http://bit.ly/3siYQkY>
- 2015 **Pratt Institute**, M.S.Ed.
Department of Art and Design Education
Co-Advisors: Dr. Christopher Kennedy & Dr. Heather B. Lewis
Thesis: Improv, Risk, and Conflict: The Experiences of Arts Facilitators in NYC's Juvenile Justice System
- 2011 **Yeditepe University**, B.F.A. *high honors*
Double major in Plastic Arts (Painting, Sculpture & Ceramic); Fashion & Textile Design

PROFESSIONAL EXPERIENCE

- Fall 2021 *Instructor of Art Education*, Edinboro University of Pennsylvania, Edinboro, PA

ARED 283: Digital Culture in the Arts
ARED 314: Arts Theory & Practice
ARED 715: Critical Readings in Art Education
ARED 720: Therapeutic Art Education
- 2020-2021 *Teaching Assistant*, ART20 Introduction to Drawing,
The Pennsylvania State University, University Park, PA
- Spring 2020 *Instructor of Record*, AED225 Diversity, Pedagogy & Visual Culture,
The Pennsylvania State University, University Park, PA
- Fall 2019 *Instructor of Record*, ART1 Introduction to Visual Arts,
The Pennsylvania State University, University Park PA
- Fall 2019 *Teaching Assistant*, AED 322 Visual Culture & Educational Technologies,
The Pennsylvania State University, University Park, PA
- 2018-2019 *Instructor of Record*, ART122Y Commentary on Art,
The Pennsylvania State University, PA