

MOST EFFECTIVE PEDAGOGICAL APPROACHES FOR TRANS AND GENDER QUEER SINGERS TO LEARN FORMANT TUNING

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I dedicate this body of research to my mentor, Dr. Felix Graham, whose guidance and support have been life changing.

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They inspire me everyday.

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Proposal Word Count: 1,303

Project Proposal: What are the most effective pedagogical approaches for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception?

Context:

One of the main challenges transgender singers face is being perceived as the gender they identify with, especially since the field of singing utilizes strict gender binaries to describe and cast singers in roles and voice types (Sauerland, 2022). It is a crucial time to determine ways to support trans singers in the voice studio, especially for transfemme singers, since HRT does not alter fundamental pitch of their speaking voice, unlike transmasculine singers who are on testosterone, which does cause the vocal folds to thicken and therefore drop in fundamental pitch (Sauerland, 2022).

While fundamental frequency of pitch is the primary indicator of gender perception in the voice, many studies show that formants and other speech patterns and characteristics play a significant role in gender perception of the voice. (Södersten et. al, 2024; Hero and Houston, 2023; Ghorshi, Vaseghi, and Yan 2008; Schmid and Bradley 2019; Manny, 2014; Houle & Levi, 2021; Kim, 2020; Martinho et. al, 2024).

It is especially important to equip trans/gender non conforming singers in a time where gender affirming care and hormone replacement therapy is jeopardized. In the United States, there are currently 711 bills being considered nationwide which would negatively impact trans/gender non conforming people, and 169 of them are putting healthcare at risk (Trans Legislation Tracker, 2026).

Justification

This lesson plan introduces the concept of formant tuning for transgender singers, who are often overwhelmed with the information they are initially presented with. This overwhelm leaves many singers feeling disheartened and unaffirmed- which is the whole point of gender affirming voice training (GAVT). My approach in the studio connects familiar concepts such as accents and

different genres/styles, to newer concepts such as vowel modification and formant tuning. The lesson plan is designed to incorporate multiple pedagogical methods to assist the student in accomplishing the learning objectives: ability to modify vowels to alter formant values, identify sensational resonance cues, distinguish different vowel sounds and sensations, and applying these concepts to a song of correlating genre/song of their choice. This approach with multiple pedagogical methods broadens the typical approach of mimicry and modeling and is pertinent since trans/gender non conforming people are more likely to have autism, ADHD, and other developmental/sensory issues than cisgender people (Tollit, 2024; Dattaro, 2020).

I utilize scaffolded learning by connecting the familiar concepts of accents and various genres of vocal music to newer concepts like formant tuning. I then ask them to reflect upon those experiences, as we build upon the acquired knowledge. This references Kolb's cycle of experiential learning. I also utilize Bloom's domains of learning and levels of learning with associated objectives (Gravells, n.d.). The theories framing this research are Kolb's cycle of experiential learning, scaffolding techniques, and sensory learning. While I cannot cater to every individual with this lesson plan, broadening the scaffolding tools and sensory learning methods to encompass cross genre singing and accents, provides extra reinforcement and connection to create a holistic perspective to formant tuning in gender affirming voice therapy/training.

The Intended Impact

The intended impact of this research is to determine effective pedagogical strategies for introducing abstract concepts such as formant tuning. While research has been done on effective methods, this project specifically is determining how to equip teachers with tools to best teach formant tuning in the context of gender affirming voice training. Testing this lesson plan and gathering feedback from participants will be crucial in assessing its viability.

While perception and presentation are influenced by many factors, such as prior experience, unintentional bias, environmental surroundings, and contextual motivation, this lesson plan is a tool in empowering transgender singers to use a voice that is most authentic to how they identify and want to present to the world. The holistic approach considers not just the objectives and goals but the human who is the student, and their journey as they go on to meet their goals, not just within the context of the studio but also as they navigate their lifelong relationship with their voice.

There is still very little research on transgender individuals, even much less so in the voice field (Graham, 2019). This research will fill a gap in knowledge about an oppressed group of people, and obtain useful information that has the potential to understand the experiences of trans and non-binary voices

The Outlined Intention

I intend to hold a group class and masterclass on 3/28 at Ripley Grier Studios in NYC, from 1:15-3:30 going through the lesson plan with a group, and then holding a masterclass for 6 students to apply what they learned in the lesson plan. I aim to utilise mixed methods for conducting this research. By employing both qualitative and quantitative approaches as well as qualitative data concerning experiences and descriptive data. I have already conducted a review of evidence and literature in Module 5. This review investigates how formants are a key part of gender perception, and how formant tuning and vowel modification are utilized in familiar concepts such as singing across genres and accents, and the best pedagogical tools to teach these concepts. I will distribute questionnaires to the masterclass participants gathering information on masterclass participants such as HRT information, age, assigned sex at birth etc. Then I will distribute surveys to gather the understanding of those in the group class and masterclass investigating the experiences of participants before and after the class. I will use a reflective journal and field notes to track my data and process of conducting this research.

March	April	May	June	July	August	September
Proposal Submitted 3/2	obtain surveys	synthesize findings	synthesize findings	write body of project	Draft submit	edit draft
Develop methods 3/6						prepare for presentation
Conduct Research 3/28						

Ethics and Insider Research

There are risks to teaching topics surrounding health and identity, and gender presentation/perception, which can be sensitive topics. Recalling potentially stressful / traumatic experiences and asking questions about private information such as healthcare can be of risk to the participants (Amir, Badour and Freese, 2009). Sensitive issues can pose a risk to one's mental health. I will list mental health resources that can assist the participants, if they feel like they need professional help such as Trans New York.

Participants will be informed of how data will be collected through surveys, questionnaires, and Video/audio recording of the class. They will know their data will be collected through google forms stored on google drive, and how the data will be about some aspects of their voice, identity, and health details. They will know they may withdraw at any time, and their data will still be protected. They will sign their consent on a form I will create and verbally confirm their consent at the beginning of their participation. When I am conducting the group class I will ensure that the wires are taped down, a clear pathway is made for participants to move in, then making sure everyone knows where fire exits are.

As an insider, I will recognize my bias, especially drawing upon my personal and professional community as potential participants, and also take into account my own experience as a neurodivergent nonbinary vocalist who works with transgender voice students. While my position lends me empathy and understanding, I will rely on my tutor for guidance to ensure there are any blind spots that are creating unethical research practices.

Expected Learning Outcomes

- Assessing the viability of utilizing the lesson plan in the studio by obtaining feedback from participant surveys
- Understand the learning needs of trans/gender non conforming individuals in the voice studio
- Ability to apply conclusions to refine and strengthen my teaching practice

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Word Count: 10,942

**Most effective pedagogical approaches for trans and gender queer singers
to learn the concept of formant tuning**

INTRODUCTION

Context:

The field of singing utilizes traditional gender binaries of male (assigned male at birth) and female (assigned female at birth) to categorize voices (Ehrick, 2015; Sauerland, 2022). The labels soprano, alto, tenor, and bass are standard in industry and education, and there are terms such as spinto, coloratura, lyric, and dramatic, to denote timbre and weight (Hagen, 2020). However, what happens when a voice does not fit into those categories?

Transgender and gender non conforming singers often struggle with their voice as it may not present and align with their gender identity. It is a crucial time to determine ways to support trans singers in the voice studio, especially for transfemme singers, since HRT does not alter fundamental pitch of their voice (Gorham-Rowan & Morris, 2006) unlike transmasculine singers who are on testosterone, which does cause the vocal folds to thicken and therefore drop in pitch (Brown et al., 2020).

While fundamental frequency of pitch is the primary indicator of gender perception in the voice, there are many studies done to show that formants as well as other speech patterns and characteristics play a large role in gender perception of the voice. (Södersten et. al, 2024; Hero and Houston, 2023; Ghorshi, Vaseghi, and Yan 2008; Schmid and Bradley 2019; Manny, 2014; Houle & Levi, 2021; Kim, 2020; Martinho et. al, 2024).

This is especially important to equip trans/gender non conforming singers in a time where gender affirming care and hormone replacement therapy is jeopardized (Redfield et al.2024). In the United States, there are 711 bills being considered nationwide which would negatively impact trans/gender non conforming people, and 169 of them are putting healthcare at risk (Trans Legislation Tracker, 2026).

Justification:

The artifact I developed is a lesson plan for teachers introducing the concept of formant tuning for transgender singers. Students are often overwhelmed with the information they are initially presented with, leaving many singers feeling disheartened and unaffirmed- which is the whole point of GAVT. The lesson plan is designed to incorporate multiple pedagogical methods to assist the student in accomplishing the objectives of gender affirmation and agency in how they choose to present their voice. This approach with multiple pedagogical methods is pertinent since trans/gender non conforming people are more likely to have autism, ADHD, and other developmental/sensory issues than cisgender people (Tollit, 2024; Dattaro, 2020).

I utilized scaffolded learning by connecting familiar concepts such as accents and various genres of vocal music to newer concepts like formant tuning, which broadens the typical approach of mimicry and modeling. Kolb's (2015) cycle of experiential learning frames the reflection prompts through a sensory lens, as we build upon the acquired knowledge in a group setting (Johnston, 2012). I also utilize Bloom's domains of learning and levels of learning with associated objectives (Gravells, n.d.). The theories framing this research are Bruner's Spiral Curriculum and Vygotsky's Zone of Proximal Development in the context of sensory learning methods. While I cannot cater to every individual with this lesson plan, broadening the scaffolding tools and sensory learning methods to encompass cross genre singing and accents, provides extra reinforcement and connection to create a holistic perspective to formant tuning in gender affirming voice training.

The Intended Impact:

The intended impact of this research is to determine effective pedagogical strategies for introducing abstract concepts such as formant tuning in the context of Gender Affirming Voice Training. Gender perception and presentation are influenced by many factors, such as prior experience, unintentional bias, environmental surroundings, and contextual motivation. Pernet, Belin & Jones (2014) also concluded that gender and phoneme processing seem to be separated at the early stages of processing auditory information, since the brain relies on different acoustical cues.

Given this, the lesson plan inquires how to best equip teachers with tools to best teach formant tuning to present authentically and uses feedback from this study to test its viability. This lesson plan is a tool in empowering transgender singers to use a voice that is most authentic to how they identify and want to present to the world. The holistic approach considers not just the

objectives and goals but the human who is the student, and their journey as they go on to meet their goals, not just within the context of the studio, but also as they navigate their lifelong relationship with their voice.

Since there is still very little research on transgender individuals, even much less so in the voice field (Graham, 2019), this research fills a gap in knowledge about an oppressed group of people, and obtains useful information that has the potential to understand the experiences of trans and non-binary voices. I assessed the viability of this lesson plan I developed in previous modules and obtained feedback from participant surveys, to better understand the learning needs of trans/gender non conforming individuals in the voice studio and hone the ability to apply conclusions to refine and strengthen my teaching practice.

LITERATURE REVIEW

Longer vocal folds will have more mass and therefore vibrate at a lower rate. People AMAB (assigned male at birth) tend to have longer vocal cords (Gelfer and Mikos, 2005; Gelfer & Bennett, 2013) and therefore have a lower pitched voice. People AFAB (assigned female at birth) tend to have shorter vocal cords, so the folds will vibrate at a faster rate, hence why pitch is the initial indicator of biological sex assigned at birth (Babel, McGuire & King, 2014). Throughout all of these studies, the initial primary factor of gender perception tends to be the fundamental frequency (f_0), often referred to as pitch. Knowles & Little (2016) investigated how various acoustical factors, such as pitch and formants, altered a listener's perception of how cooperative the speaker is, as cooperation tends to be a quality associated with feminine traits. In the study, voices featuring a "feminine" range F_0 were rated as more cooperative than those with masculinized F_0 , regardless of the speaker's assigned sex at birth.

A study by Gelfer and Schofield (2000) also concluded that voices perceived as female averaged a higher speaking fundamental frequency (SFF) compared to those perceived as male. The upper limit of SFF and ratings of femininity were correlated in the results, suggesting that higher pitch ranges are associated with perceptions of femininity in 'Male to Female' transgender voices. Houle & Levi (2021) showed that whispered speech reduces gender clarity, indicating how significant F_0 and formants are to gender perception. Schmid and Bradley (2019) found that non-binary speakers F_0 averaged to be right in between the mean F_0 of cisgendered women and men, but the non binary speakers with more of a feminine gender identity had a higher SF_0 and those with more of a masculine gender identity had a lower SF_0 . They also

found that both masculine and feminine speech cadence and intonation patterns were used across the nonbinary participants. However, it is important to note pitch varies across cultures. Fundamental frequency does change depending on language and cultural tendencies, and perception changes due to cultural expectations and norms (Van Bezooijen, 1995; Natour and Wingate, 2009; Altenberg and Ferrand, 2006). This highlights a crucial aspect of cultural context and the voice, and also points to how gender is presented and perceived differently in various cultural and social contexts (Hancock et al., 2014).

Although F_0 can establish the initial impression of a voice in terms of gender perception, formant frequencies—the resonant frequencies of the vocal tract—can further alter and refine the perception (Donai & Lass, 2015). F_1 is associated with tongue height, and F_2 with tongue front-to-back position. If F_0 is unclear, the additional formant frequencies determine whether a voice appears masculine, feminine, or androgynous (Gelfer & Bennett, 2013; Hillenbrand & Clark, 2009). Higher vowel formants, particularly F_2 , produce a more feminine or androgynous sound (Schmid & Bradley, 2019). Many studies (Manny, 2014; Houle & Levi, 2021) have shown that when both F_0 and F_2 are higher, femininity ratings are higher. Schwarz et al. (2018) pointed out that even after having their voices feminized, the voices of transgender women often differ acoustically from those of cisgender women, particularly in terms of F_0 and resonance quality.

However, when both F_0 and F_2 values increase, the voice is perceived as more feminine over time (Mount and Salmon, 1988). This is attained through shifts in tongue placement as F_2 increased; listeners began to regard the speaker as female. Babel, McGuire, and King (2014) found that higher F_2 values in the vowel /u/ strongly predicted vocal attractiveness in female voices. In the 2018 study by Gallena, Stickels, and Stickels, the F_1 to F_3 vowel formant values of a male speaker were altered while the fundamental frequency remained unchanged. As the formants increased, listeners' perception gradually shifted from masculine to feminine.

Vowels such as /a/ and /æ/, which naturally have a high F_1 , showed that resonance patterns, rather than pitch, determine how gendered a voice is perceived. Assmann, Nearey, and Dembling (2006) used a vocoder to alter F_0 and formant frequencies and found that consistency between the two was essential for perceived naturalness. Voices with higher F_0 and higher formants were considered more feminine, while those with lower values were seen as masculine. However, in mixed configurations, the results were ambiguous, showing that both pitch and resonance determine gender perception. Hardy et al. (2020) reproduced these findings by showing that F_0 mainly determines the perceived gender but that F_2 also plays a role in the assessment of femininity in the voices of transgender women.

Shifting formant values to increase or decrease is not the only factor in gender perception, but shifting values proportionally to each other can shift how resonance is perceived. Idsardi and Zetland (2019) found formant spacing results from both vocal tract length and vowel-associated constrictions; even when tract lengths differ, similar F_1 resonances can occur in high vowels. Cartei and Reby (2015) concluded formant spacing, especially between F_1 and F_2 , contributes to gender perception in the voices of pre-pubertal children, since F_0 differs only slightly. The wider formant spacing observed in AMAB children (indicating broader tracts) was regarded as more masculine, while the narrower spacing in AFAB children was seen as more feminine. Deepawale et al. (2008) also supported the sex-related differences in spectral energy, particularly between F_2 and F_3 . Doyle et al. (2024) found that altering formant spacing during therapy did not negatively affect intelligibility, supporting the clinical feasibility of such adjustments.

Accents influence vowel formants and shape not only how a language or dialect is produced and perceived but also how others can perceive the speaker's gender (Burgering et al. 2020). Hero and Houston (2023) point out that using a range of accents in speech leads to a clearer awareness of how mouth shape and vowel resonance change. This kind of exercise is useful for trans people trying new resonance techniques. Ghorshi, Vaseghi, and Yan (2008) found that differences between accents affect dialect perception almost as much as gender differences. They conclude that F_2 is the most powerful acoustic indicator for classifying an accent, with F_1 coming next. Both Weber et al. (2001) and Babel et al. (2014) also find that variation in F_2 —particularly in the case of /u/-fronting—correlates with both the differentiation of regional accents and with the perceived attractiveness of the speaker. Chan, Hall and Assgari (2016) conducted a study in which they changed the vowel formant values in synthesized English and Spanish-accented speech. They found that different F_2 values affected comprehension and the perception of accent strength. Yan et al. (2007) compared the vowels of British, American, and Australian English and found that Australian vowels had lower F_1 and higher F_2 values, whereas British vowels exhibited intermediate values. When formants were altered to match patterns of other dialects, perceptual shifts in accent occurred, just as formant tuning affects gender perception. Therefore, accent-training techniques can provide a basis for modifying F_1 – F_2 spacing in gender-affirming contexts.

Titze, (1982) validates the significance of sensory feedback in voice production. Boysen and Hide (2024) exemplified these sensory techniques involving twang and medialisation to help participants modify vowels to alter the gender perception of their voice. In the first session,

participants were given an explanation of what twang and medialisation meant and were asked to speak at a pitch higher than their normal speaking pitch and adjust their tongue position to achieve a twangy, forward resonance. The initial aim was for participants to develop a good understanding of their own voice and its possibilities so they could carry out the resonance techniques. To achieve this, they isolated vowel sounds, then combined them into diphthongs before progressing to full words. The clinician used sensory learning methods to stress the importance of feeling and being able to tell the difference between the sympathetic resonance vibrations in the lips, teeth, nostrils, and hard palate. Participants were asked to listen to the recordings, identify the different sounds, and link them to the kinesthetic sensations.

Laird (1985) found that while kinesthetic and auditory sensory learning are important in singing, 75% of an adult's knowledge comes from sight, 13% from hearing, and the remaining 12% comes from a combination of touch, smell, and taste. However, Mayer (1998) examined whether recall improved when instructions were delivered both visually and aurally, and found that integrating both methods led to better recall than relying on visual information alone. The results show that multisensory learning is even more effective.

Other sensory learning tools also support visual learning, such as automation and biofeedback technologies with promising uses in gender-affirming voice therapy. Kumar et al. (2011) and Deepawale et al. (2008) explain that classifying pitch and formant data can support therapy by providing real-time visual feedback. In their study, Kawitzky and McAllister (2018) used visual-acoustic biofeedback to help transgender women train their resonance strategies to raise F_2 values and blind listeners judged higher F_2 values as more feminine.

Different musical genres involve different resonance strategies, which can shift F_1 and F_2 values (Bozeman, 2013; Sundberg & Thalen, 2015). There are differences in pharyngeal width and laryngeal height among genres (Wilson, 1997; Latimerlo & Popeil, (2012). In the case of classical and R&B, the pharyngeal space is wider, with country and rock using a narrower and more constricted space, and pop or musical theatre showing a degree of neutrality. Since the space of the vocal tract changes, this shifts the formant values.

Vowel modification, a conventional method for balancing resonance across registers (O'Connor, 2022), can also influence gender perception by shifting formant values. Closed vowels, such as /u/ and /i/, have a low F_1 , whereas open vowels such as /a/ have a high F_1 . Fronted vowels, like /i/ and /æ/, produce high F_2 values and are perceived as brighter or more feminine; back vowels such as /a/ and /u/ produce lower F_2 values and a darker sound. By altering laryngeal height and

pharyngeal width, singers can modify these spectral characteristics. (Moisik et. al., 2019; Ragan and Popeil, 2017; Emmons, n.d.)

Vocal tract shapes can be linked to perceived gender characteristics—low, wide configurations mirror a darker, "masculine" timbre, which while higher, narrower ones sound brighter or more "feminine". In classical singing, darker vowels and a lowered larynx enhance "scuro" resonance, associated with masculine qualities (Moisik et al., 2019). Transmasculine singers may therefore benefit from classical repertoire emphasizing rounded vowels such as /o/, which lowers F_1 and F_2 , deepening perceived resonance. Conversely, musical-theatre belting emphasizes brightness and forward resonance: vowels like /æ/ raise F_2 , and the "molar mouth" technique widens oral space for a brassy, feminine sound (Popeil & Latimerlo, 2012; Cardon, 2021). Encouraging transfeminine singers to perform such repertoire can provide a sensory and acoustic framework for achieving higher F_2 resonance and thus greater vocal femininity.

Teaching these concepts with sensory learning is extremely useful in pedagogy, because it connects the students' experience to new concepts, which is termed "scaffolding." Gregory (2023) describes various types of scaffolding (such as procedural, conceptual, strategic and metacognitive) which accomplish different aims to help the student become well versed and competent in a subject. Blummer (2014) notes that meta cognitive learning can be done with a variety of reflective tools and prompts rather than attempting trial and error, which can be inefficient.

While the literature I used in previous modules draws fairly consistent conclusions, it must be acknowledged that perception is subjective, students have individual learning styles and needs, and these conclusions from literature will vary across different manners of speech and languages (Zimman, 2017; Van Bezooijen, 1995; Altenberg and Ferrand, 2006). This approach with multiple pedagogical methods is pertinent since trans/gender non conforming people are more likely to have autism, ADHD, and other developmental/sensory issues than cisgender people and therefore have different learning needs (Tollit, 2024; Dattaro, 2020).

METHODOLOGY

This project is grounded in the framework of gender perception- and perception cannot be controlled, it can only be constructed (Johnson and Sjerps, 2017). Perception is inherently subjective and can be influenced by how the subject presents. While that does remain to be true, I discovered how perception can correlate with positivism - the numbers and data will often

correlate with subjective findings. Many find positivist and constructivist perspectives to be irreconcilable (Lincoln and Guba, 2000). However, Cupchik (2001) argues that the quantitative methodologies correlating with positivism and qualitative methodologies correlating with constructivism can be bridged by the term he coined- constructivist realism. This term *“acknowledges a social world (or worlds) that is reflected in the natural attitude of daily life and exists prior to and independent of either positivist or constructivist analysis; hence realism.”*

Therefore, I position myself within this constructivist realist ontology. I utilize and position myself in the constructivist theory which claims that learners acquire new skills and knowledge not just by direct instruction but also experiences, interaction, and integration (Williams, 2021). There are advantages and disadvantages of constructivism within pedagogy, but the disadvantages are often only present in large classroom settings, and with standardized objectives (Gleeson, 2017). The advantages are highlighted in the voice studio application, where the setting for teaching voice in a musical context is one on one or small group learning. This ontological stance informs my methodology by building upon prior research and synthesizing literature to create this lesson plan, which consists of mostly quantitative data surrounding formants.

However, perception is a topic which is inherently subjective so I drew upon findings from prior research which delved into the perspective of trans women/femmes. This worked with data from empirical testing, as well as drawing upon my own experiences teaching in the studio. Utilizing both white and grey literature is informed by constructivist realism because it acknowledges the social world which “exists outside of positivist and constructivist analysis.” Therefore, I use grey literature from forums and websites which add valuable insight to the social aspects of this area of research, lending to Vygotsky’s perspective that learning is a co-created experience, as well using reliable sources which represent this under-researched population.

This study also adopts an interpretivist-constructivist epistemology. Knowledge about effective gender-affirming vocal pedagogy is understood as being co-constructed through interactions between researcher, participants and the educational context. This is informed by theoretical frameworks that support social co-constructed learning, such as Vygotsky’s zone of proximal development (Shabani, Khatib and Ebadi, 2010). The participants' experiences of learning, voice and gender perception are therefore viewed as valuable sources of knowledge. At the same time, quantitative evidence, including findings from acoustic research and participant questionnaires, is used to supplement these interpretations, resulting in a mixed-methods

approach. The methods utilized in the design are literature reviews, artefact development, questionnaires, pre/post surveys, reflective journals, field notes on the class recording, qualitative coding and descriptive quantitative analysis.

Lesson Plan Development:

In order to discuss how the lesson plan is applied, a short explanation of how it was intentionally developed is necessary. Since accent training techniques can serve as frameworks for modifying F_1 – F_2 spacing in gender-affirming contexts, I utilized accents as an introduction to formant tuning (Chan et al. 2016). Various accents and dialects are concepts most people are aware of, even if they do not know the intricacies of accents or how to accurately utilize them in speech and singing. Building upon this familiar concept can be effective to introduce vowel modification through conceptual scaffolding as outlined in Bruner's model of the spiral curriculum (Johnston, 2012). The lesson plan prompts the teacher to ask the student to mimic an accent and repeat after the instructor. This modeling approach allows the student to observe an example before introducing the main topics of the lesson. It also establishes trust in the student-teacher relationship, where the teacher leads and the student follows. Once they receive affirmation that they accomplished the mimicry, the student can feel empowered to try new things, lending to Bruner's theories of learning through discovery (Johnston, 2012).

I utilized Bloom's levels of learning objectives alongside Kolb's reflective model. First, I ask students to recall what they previously knew and their concrete experience of how the introduction felt in their body. This reflective kinesthetic prompt helps the student become aware of how their body is incorporated into the abstract concepts introduced next (Quinn, 2000). A visual aid is then used to explain how vowels are formed in the mouth and shaped with the tongue and lips. This visual aid is introduced first since seventy-five percent of the information adults obtain is visual (Laird, 1985). The graphic shows examples of words because the student may not be familiar with the International Phonetic Alphabet, which is how the vowel cone graph is typically displayed.

For the next stage of Kolb's experiential learning, I introduce kinesthetic sensory mapping by making physical adjustments and becoming aware of how they feel in the body. Singers can often become "stuck in their head" when taught with abstract concepts. Kilpatrick (2020) notes the importance of movement in voice pedagogy, requiring awareness of the body and the parts utilized to attain the task at hand. Identifying the tongue and lips, which shape the vowels and vocal tract, is crucial so the student understands the physical tools at their disposal. I also

incorporate Bloom's next level by prompting students to describe where and how they felt changes in their body and where they experienced sympathetic resonance. This combines direct instructions on tongue and lip movement with modeling through mimicry.

The vocal warm-ups provide trans-femme and trans-masc singers with a framework for incorporating vowel shapes before introducing formant tuning. Allowing the brightest, most forward vowel [i] helps trans-femme students modify subsequent vowels to be brighter, an example of medialisation described by Boysen and Hide (2024). Lip rounding in the trans-masculine exercise lowers the fourth formant, elongates the vocal tract, and produces a darker quality associated with masculine voices (Mount and Salmon, 1988; Zimman, 2017).

The next stage in Kolb's reflective cycle is abstract conceptualization, where I introduce formants. Formants can be confusing, so establishing a proper framework beforehand is paramount. Explaining how formants can be of value for transgender students, as students can disengage when taught complex concepts without comprehending the subject's relevance (Nicholson and Putwain, 2015). Since pitch is often assumed to be the only means of altering gender perception, explaining how formant spacing can influence gender perception even when F_0 values don't change demonstrates why this concept is important for gender-affirming voice training (Gelfer & Bennett, 2013; Hillenbrand & Clark, 2009; Schmid & Bradley, 2019; Manny, 2014; Houle & Levi, 2022; Babel, McGuire, and King, 2014; Assmann, Nearey, and Dembling, 2006). The lesson then builds on the earlier sympathetic resonance mapping exercise to introduce vowel modification.

The next stage in Kolb's reflective cycle is active experimentation, which corresponds with Bloom's next level of application. The student first observes another singer applying these concepts in a video, demonstrating that performances, videos, and everyday speech or singing can all be connected to studio work (Amir et al., 2009). The student then applies these discoveries to a vocalise or piece. Sauerland (2022) notes the importance of student agency in repertoire selection, particularly because repertoire often exists within a strict gender binary. I have found that giving students agency strengthens confidence and their "inner voice," which also strengthens their physical vocal apparatus (Cardon, 2021). This is especially important for transgender singers, who may have a complex relationship with identity, gender presentation, and how they are perceived. Songs can be transposed to suit the student's vocal register, with application guided by the instructor (Vala, 2021). Selecting repertoire appropriate to the

student's level remains important, making song suggestions or working within the student's preferred genres proves to be beneficial.

At the end of the lesson, I address Bloom's remaining learning objectives of analysis, synthesis, and evaluation. I ask students to compare how they felt at the beginning and end of the lesson, summarize the concepts they learned, and evaluate how the application supports their personal goals. These reflective questions are an example of metacognitive scaffolding (Warwick, 2007). Students and teachers can then assess together how to move forward establishing communication.

I incorporate multiple forms of sensory learning in the lesson plan so instructors can adapt if a student struggles with one approach (Pernet et al., 2014). Challenges may arise if a student is unfamiliar with accents or uninterested in certain musical genres. In those cases, the teacher can adapt by connecting the concepts to songs or artists the student already enjoys and highlighting the speech or singing characteristics they are familiar with.

Methods:

I applied this lesson plan in the context of a group class and masterclass on Saturday, March 28, 2026 at Ripley Grier Studios in NYC, from 1:15-3:30. I taught the lesson plan with a group, and then taught a masterclass for 6 students to apply what they learned in the lesson plan. I employed both qualitative and quantitative approaches as well as qualitative data concerning experiences and descriptive data. The entrance and exit surveys were designed to measure the observer and masterclass participants' perceived understanding and ability to apply concepts of formant tuning to their singing practice as gender queer singers. I distributed questionnaires to the masterclass participants to gather information on masterclass participants such as pronouns and gender identifiers. While I initially wanted to ask about age or HRT information, I realized that does not portray how they will apply concepts of formant tuning and could be unnecessary and invasive. Instead, I asked how I could best work with them during the masterclass and what song they would like to sing.

I distributed surveys to gather the understanding of those in the group class and masterclass investigating the experiences of participants before and after the class. The entrance survey had participants note if they identified as neurodivergent, selecting all the sensory ways in which they learn best (visual, auditory, kinesthetic) and scaling their understanding of formant tuning and vowel modification on a scale of 1-5 (1 being not familiar at all, 5 being very familiar). The

exit survey contained the following questions scaled from 1-5 (1 being not familiar at all, 5 being very familiar).

- What is your understanding of formant tuning now after the class?
- What is your understanding of vowel modification now after the class?
- Do you feel confident in applying these concepts to affirm your gender presentation
- What portion of class was most effective for you?

A Introduction using accents

B Visual Charts

C Listening to various genres and artists

D Call and response / mimicking

E Identifying sympathetic resonance

I gave the participants and observers room to add additional comments. This quantitative methodology with scaled surveys ensured I have a framework for the qualitative data to breathe within. I tracked my data and process of conducting this research with reflective journal and field notes.

Ethics and Bias:

As an insider, I recognized my bias, especially as I drew upon my personal and professional community as potential participants. I also accounted for my own experience as a non binary vocalist who works with transgender voice students. Using my place of employment to advertise the group/master class made it easy to find participants, as a few of my current and former clients and former students signed up. I also drew upon my network by advertising the class on social media, and I had two friends, and three community members join the class as well. In order to ensure that recruiting through my employer was ethical, I verbally reiterated to my clients multiple times that participating or withdrawing from the study would not impact their regular lessons with me, or our working relationship. As I sifted through the data, I used interpretive phenomenological and thematic analysis to draw conclusions from the class recording, and had to be conscious of my bias personally knowing all but one of the participants professionally/personally, and the person I did not know is very connected in my local artistic network.

FINDINGS

Various themes emerged before the class even began. I taught a lesson earlier that day with one of the participants, where she expressed how her American Southern accent came with a lot of assumptions and prejudices, so I chose not to use that one in a demonstration. I prompted the class to speak in a British accent, and asked what they felt. They noticed: a dropped jaw, taller vowels, a “bubble” in the back of the mouth. I prompted the class to speak in an Australian accent, and they felt: it was wider and brighter, and the back of the throat was diminished. They noted the lips were spread wider than how they typically would speak. I said while there might be assumptions and associations based on accents and how one speaks, there is no morality on how the voice is used, there are just different resonance and articulation strategies associated with different languages and dialects. I justified using accents (Hero and Houston, 2023) to the class as a way to scaffold with a familiar concept, and mimicry as a way to introduce formants. This showed how perception of dialect and accent carries associations and potential prejudice, which closely parallels how gender presentation in the voice also holds prejudice, discrimination, and violence. I investigated the impact of said violence in prior research, which concluded that violence leads trans femme people to be more cautious to use their voices. Through the past few years of working with individuals and groups who have experienced trauma, this violence leads to self silencing as a means of protection and survival, often showing up as jaw clenching. I noticed jaw clenching particularly with Participants A, C, and E later in the class.

After the introduction to the class with accents, I incorporated the concept of vowel modification and its influence on gender presentation (Boysen and Hide, 2024; Moisik et al, 2019). I displayed the vowel cone and used other sensory methods to reinforce the visual chart with mimicking and correlating where sensations can be kinesthetically felt in the mouth. Then, I introduced the concept of vowel height and depth. The chart I used did not have any IPA symbols, but words in English to depict the vowel sounds which made it more accessible. This is a scaffolding technique to not alienate the class and potentially confuse them with very new concepts of IPA symbols. From this visual aid, I prompted the class to mimic me by repeating vowels [a] [E] [i] in order from most open to most closed. I asked “What changes?” The class responded that the tongue had to shift higher, and also associated closed vowels with the jaw closing. Then, I prompted the class to mimic me by repeating vowels [a] [o] [u] in order from most open to most closed. Again, I asked “what changes?” and the class noted that the lips had to round more in the progression. Participants also noticed that the [i] vowel widened the lips,

and the [u] vowel felt more back. I did make the distinction in speech, the jaw will close the space of the mouth for closed vowels, however, when we are sustaining on the vowel in singing, that might not always be the case. I also gave a tactic to reduce nasality but keep brightness. Pinching the nose, and speaking behind the nasality by raising the soft palate, exhibited another manner that the vocal tract can be shaped.

Another theme I coded was additional ways to prompt vowel modification such as utilizing glides to encourage tongue height or lip rounding in a more subtle way. This is effective for students who take an instruction and fixate on the direction resulting in unnecessary tension. For example in **Warm up 1**, there is a [j] glide when the singer shifts from the [i] to the [E] [o] and [a] vowels. This glide helps keep the tongue higher, but I did not mention this. I just prompted the group to shift the second vowels closer to the [i] tongue position. I instructed the singers to sing a vigorous fricative [v] to engage the diaphragm and ensure enough breath energy for the ascending fourths. Participant C noted that there was more connection and consistency in forward resonance. Others said it felt clearer and brighter. I asked if they noticed their tongues moving lower than necessary when they switched vowels from [i] to the other following vowels. They agreed that they felt that. Another takeaway from Warm up 1 was singers need to ensure we do not overspread and clench the jaw. I said “while we don’t want to completely unhinge the jaw to get space, if we unclench the jaw, there is room for the tongue to take up, and therefore, utilize a brighter resonance without merely using spreading of the lips for brightness.” I added that brightening the vowel by modifying towards the [i] tends to be associated with more of a feminine vocal quality (Manny, 2014; Houle & Levi, 2021).

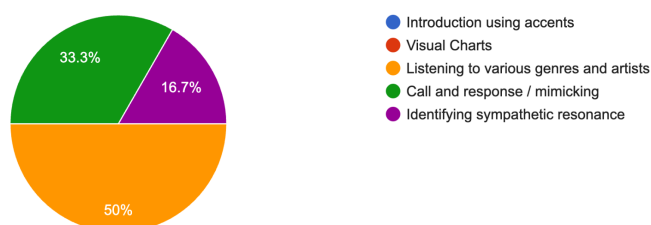
Another example of a glide used to achieve vowel modification is in **Warm up 2**. I directed everyone to sing the next warm up and lean into the roundness using the [w] glide to set up the roundness. An observer noticed that there was a lot of ease, and laryngeal relaxation, as opposed to the previous exercise. Another noticed that they felt less laryngeal clench and less tongue tension. I noted that rounding the lips creates a wider pharyngeal space and a lowered larynx which can help ease any clenching. Another observer noticed that they were able to sing lower, but also saw the impulse to put effort into rounding. This showed how emphasizing a certain factor can cause unnecessary fixation and tension. I explained how the vocal folds' primary vibration does not actually sound like our voice, but that vibration reverberating in our vocal tract makes our voices all sound unique. I noted how we shape the vocal tract with voluntary muscle movements, such as tongue and lip shape, which impact the pharyngeal shape. This was a segway into the concept of formants.

Then, I introduced another visual aid, an EQ spectrum to visualize how pitch can remain constant, but formant values can shift depending on vowels. I sang [i, E, a, o, u] on a single pitch and pointed out the shifting frequency values on the Tonal Energy app on my iPad. Participant B mimicked me and we noticed the significant visual differences in the formant frequency values between our voices. I said that while fundamental frequency is the primary predictor in gender perception, the next strongest predictor is formant frequencies (Gelfer & Bennett, 2013; Hillenbrand & Clark, 2009; Schmid & Bradley, 2019). I did note that speech habits and phonation patterns also influence gender perception (Knowles & Little, 2016; Gelfer & Mikos, 2005; Hillenbrand & Clark, 2009; Zimman, 2017). I noted that using vowel modification and resonance strategies give us the tools and agency to present in the way which we want, in various contexts. I gave an example and we modified vowels from [tu] to [tju] and noticed the shift in sound and sensation while not completely changing the vowel. Using associative scaffolding, I gave the analogy that vowels are like watercolors, we can saturate them to be brighter or darker. Participants had heard of the term *chiaroscuro* in a variety of contexts including painting, so the analogy proved to be effective.

Demonstration was also effective when I sang a line from The Trees on the Mountains from Susanna by Carlisle Floyd to exemplify “darker” vowels and Someone Like You, from Jekyll and Hyde by Frank Wildhorn exemplifying bright vowels. I noted that pop singing tends to sit more neutral in the mouth, similar to how speech sits in the mouth. I presented the chart from Sing Anything, by Lisa Pompeil and Gina Latreimo, and explained the various factors that go into singing in different genres, from nasality, laryngeal tilt, pharyngeal shape, and resonator space. These factors are flexible and vowel modification in various genres is a base framework, not a rigid fixed rule. Resonance strategies can communicate and express the music and emotion, which I reiterated is the whole point of singing.

The listening portion of the class was given a 50% most effective rating from the survey. The key takeaways from listening to the songs that the participants would sing in the masterclass was how vowels modify for the genre and how that translates into gender presentation strategies.

What portion of class was most effective for you?
6 responses



For example, [In Darkness Let Me Dwell](#), I point out that the mouth shape of the singer in the video stays more neutral to round, the height on the [a] is very tall, [i] vowels are given more height. I noted how the more tall/round mouth shape lends itself to a widened pharyngeal space, lowering the fourth formant (Mount and Salmon, 1988; Zimman, 2017; Mainka et al., 2015) which is associated with more masculine qualities of singing due to the larger vocal tracts of people assigned male at birth and go through male puberty. While we cannot actually increase the size of the singer's vocal tract, we can widen the space that is there, rather than constrict it, which can influence the formant tuning and therefore the shift in how the voice is presented in scale. Another example I used was [nomoreroses](#) by Holding Absence. I asked the class what they noticed about the vowel shape and they visually noticed that the mouth shape is open but is also wide. For screamo-punk vocals that require aryepiglottic fold engagement, that vowel modification strategy correlates with the phonation. I reiterated the connection to articulators and phonation later in the Masterclass.

Another theme that emerged is vowel modification and formant tuning is important not just for genre but also the setting the song was performed, giving more dimension to the application as Bruner's spiral curriculum outlines. A recorded performance can require different vowels and phonation than singing live. I used the example of I'm No Good by Amy Winehouse: [Studio version](#) vs [Live](#). [u] in "good" is much brighter, in general everything is placed very forward, which I likened to the [ɲɛə] sound. The live performance has darker vowels. I show how her "mix" phonation is the same but the vowels have more depth, even on the [i] vowel on "cheated myself." Participant C asked if vowels change if you do it in a recording booth vs live, and I said when recording contemporary commercial music we do not want to manipulate our vowels too much ourselves, so we can give a mixing engineer a blank slate to work with.

Age also impacts hormones and the voice as well. The [original studio version](#) of Madonna's Borderline had much brighter vowels boosting the second formant which lent itself to the 80s synth pop soundscape. A [live pop rock version](#) had vowels in a more neutral, conversational place. Another version of Madonna [singing live at 59 years old](#) had a different arrangement with a slower tempo. I noted that she is now older, she needs to not just transpose to work with a voice in menopause with decreased estrogen, but also needs to anchor phonation with taller vowels given the less pliable and thicker vocal folds. To conclude this portion of the class, I reiterated that genre can help as a framework to modify vowels seeing the different resonance strategies needed for each genre and that gender perception is culturally contextual.

THE MASTERCLASS

Some of the themes that emerged from the masterclass were various strategies to achieve a brighter vowel while releasing tension. As discussed prior, trans people are often silenced, and this shows up as subconscious jaw clenching. Participants A, C, and E utilized jaw tension and clenching, which may have been a protective mechanism, and I found that when the jaw was unclenched, the tongue wanted to depress or detract. I used mimicry and kinesthetic sensory tools to set an intention for the singers to align their tongue in an [i] tongue position. With these three participants, I utilized scaffolding to methods to close the zone of Vygotsky's proximal development (Shabani, Khatib and Ebadi, 2010).

Participant A (any/all pronouns) sang *Nomoreroses* by Holding Absence. I noted excellent vowel modification on the word "me" on the pitch Eb5, by opening up the [i] vowel by singing [mE]. We worked on sustaining through a fast syllabic section with the lyrics: *"I've been kneeling on my barebones, speaking with my eyes closed, Keeping both my knuckles pressing my nose, But nothing that I ever do, Will close this hole inside of me."* Opening the jaw allowed for more sustain especially through the plosive consonants. I compared the jaw movement to the wrist, letting the joint release as if we were dropping a feather or tissue from our hand and to aim for a similar release in the jaw. Then if the jaw opens, we need to negotiate more brightness, so the tongue raises towards the [i] vowel. I asked if the [i] vowel is shaped by the tongue or lips and they correctly responded tongue. Given they were releasing the jaw, I challenged them to sing the passage up the octave, since the scaffolding methods were closing the zone of proximal development. The key takeaway was to allow space for the vowel, and utilize the tongue to maintain brightness and raise the second formant.

Participant C (she/her) was preparing for a choral audition in a piece by Atlas A. Lee-Reid. The text is: "Now everything has come to rest, the end has come and I am not afraid." We spoke about choral singing and blending vowels with more height and depth, but since this is a solo, I encouraged her to not modify it with an intention to blend with other singers. This reiterates that vowel modification depends on the setting and context. We tried the kinesthetic release paralleling wrist and jaw movement, resulting in a notable difference in vowel clarity and legato. We also used the unvoiced dental fricative [θ] in "everything" and "the" can be used to propel breath energy and using [ŋ] to align phonation between registers.

Participant E (she/her) sang “You know I’m No Good,” by Amy Winehouse. I noticed jaw clenching and lip spreading on high notes. I noted how this narrows the pharyngeal space and raises the larynx, restricting agility between registers. I prompted her to relax the jaw, and keep the tip of the tongue resting at the bottom teeth and releasing clenching of the tongue on the [i] vowels on “Sweet reunion, Jamaica and Spain, We’re like how we were again.” I noticed spreading on “can’t get joy” so I directed her to continually release the jaw, but use the tongue to take up that space to obtain brightness. She is a regular client of mine, and in lessons she has had intense, unwanted responses to tall round “choir boy” vowel sounds. While she needed to release the jaw clenching and spreading, I needed to prioritize strategies for her to raise the second formant and obtain brightness in the quality. Many vocal coaches emphasize spreading for brightness, however, I likened the spreading of the lips to salt on dinner, we do not need a lot of it. The foundation requires a relaxed flexible larynx and an unclenched jaw to sustain on various vowels. If we want to spread for brightness, it can be incorporated contextually on top of the foundation of laryngeal flexibility.

Another theme that emerged were additional methods to achieve brightness in conjunction with tongue height. I used nasal consonants [n] and [m] with brighter vowels such as [i] [ae] or [ei] to place the vowel in a brighter place with Participants B and D. This tapped into the kinesthetic sensory method shifts the sympathetic resonance forward with a nasal consonant. Participant B (he/they) sang *Borderline* by Madonna in the key of Dmaj. I had him watch in the mirror while singing “Something in the way you love me won’t let me be,” and then he did not over widen the lips which gave more laryngeal flexibility in the higher parts of his range. He wanted to keep the brightness in the quality, so I prompted him to sing on a [nae] but keep the lips rounded and “pouty.” The rounded lips widened the pharyngeal space and kept the larynx slightly lower to help navigate the transition between registers. The [n] kept the resonance bright, and he kept his tongue in the [ae] shape to maintain the brightness. I chose [nae] to model the diphthong in the lyric “playing.” I also prompted him to get a tighter “mix” phonation by leaning into the [n] in order to get more vocal fold closure and keeping more rib expansion on the exhale to manage breath pressure. Methods to shape brightness also impact phonation, building upon the concept of resonance to address phonation and fold closure, exemplifying the application of Bruner’s spiral curriculum (Johnston, 2012).

When the tongue needed additional shaping, I used the [j] glide, since it proved effective in warm ups done prior. I used both nasal consonants and the [j] glide with Participant D (she/her) who sang “Say the Word” from the musical ‘*The Mad Ones*’ by Bree Lowdermilk, Kait Kerrigan,

and Kate Kerrigan. We began with the lyrics, “Meanwhile there are so many things...” I used associative scaffolding and related this example to the fast and text dense chorus of Tracy Chapman’s Fast Car. I prompted her to use the nasal [m] consonant to place some more forward resonance with the [mi] in “meanwhile” and use that as a framework to put the following vowels in. I noted how that brought clarity to the text and how musical theater is different from pop because it is text focused, whereas if a pop singer like Ariana Grande wants to execute agile runs, she needs more pharyngeal width and laryngeal flexibility. Then, we focused on the phrase “I didn’t know how to love you until you swept me away.” since her tongue pulled back on the higher sustained syllable a-“way.” I had her sing the phrase on [jei] because the [j] glide keeps the tongue higher, and the glide opens up to the more open vowel. This kept the tongue and vowel forward, raised the second formant, and obtained more brightness and clarity (Popeil & Latimerlo, 2012; Cardon, 2021) in the following words to propel her into the key change.

The final theme that emerged from the class was breath, phonation, articulation/resonance all influenced each other to varying degrees, which I had initially touched upon with the listening portion of the class. I pointed this out to the class when I was working with Participant F (he/him) who sang “In Darkness Let Me Dwell,” by John Dowland. He did not want to sing it in a traditional classical style with vibrato and dark vowels. His vowels and diction were very clear, lending to the lovely “tenor” quality of the voice. I noticed he was over emphasizing each syllable, so I challenged him to find legato by prompting him to give taller space for the vowel by opening the jaw. I utilized associative scaffolding and likened singing legato to how string is consistent through beads on a necklace- like how the vowels and breath are consistent through the consonants. The legato flowed so much more freely and he noted it felt easier in terms of breath energy to manage.

SURVEY RESULTS

While it is valuable to view the overall results of each question, I found it to be most valuable to discuss the before and after results of each individual profile and then incorporate the overall survey findings. This lends itself to the constructivist realist positioning of reconciling the reality of the quantitative information such as formant tuning values, and the constructivist understanding of qualitative data where the participants perspective is constructed through their discovery based, lived experience interacting with me and the others present in the class.

Participant A gained familiarity and understanding with formant tuning, and vowel modification, and noted they do have neurodivergence/sensory processing issues. They selected they learn best through visual, auditory, and kinesthetic learning methods but responded that listening to various genres and artists was the most effective part of the class. Their familiarity with both vowel modification and formant tuning increased by a value of 2 and scaled comfortability with application for gender affirmation as a 4/5. They said, “I felt the tonal shifts from allowing my tongue to ‘take up space’. I’m now going to be more cognizant of where I place my tongue whilst singing because I have a history of allowing my tongue to pull to the back of my mouth.”

Participant B was already fairly familiar with formant tuning, and vowel modification, and after the class was confident in understanding and application and noted on the entrance survey he might have neurodivergence/sensory processing issues, but not formally diagnosed. He increased familiarity with vowel modification and formants from 4 to 5 and comfortability in application in terms of gender affirmation as 4/5. He noted that listening to various genres and artists was the most effective part of the class correlating with his response he learns best through auditory and kinesthetic learning methods. The most effective thing he learned was, “Singing on “nyah” and then singing the lyrics in that space” and also gave feedback that hearing the different versions of Borderline was insightful on how he can alter the way he sings his own tunes. He had mentioned to me in the past about how he wants to incorporate more brightness and femininity back into his voice prior to when he was on HRT and have that option, which was why I focused more on obtaining that brightness through the nasal/bright [nja].

Participant C grew in some understanding and familiarity with the concepts as her responses increased by 1 on both formant tuning and vowel modification. She selected she learns best through visual, auditory, and kinesthetic learning methods but noted listening to various genres and artists was the most effective part of the class. She scaled comfortability in application in terms of gender affirmation as a 5/5. The most effective thing in the masterclass for her was, “Using hand gestures to loosen my jaw and allow the space necessary for formant tuning.” This indicates she responded well to the kinesthetic method I applied in having her mirror deliberate releasing of a joint in the wrist and using that as a scaffolding point to also apply to releasing the joint of the jaw.

Participant D noted on the entrance survey she does have neurodivergence/sensory processing issues and learns best through visual, auditory, and kinesthetic learning methods. She

responded 4 on the scale of 1-5 on familiarity with formants and familiarity with vowel modification. Participant D did not fill out the exit survey.

Participant E grew in understanding of the concepts of formant tuning and vowel modification and does have neurodivergence/sensory processing issues. She selected she learns best through visual learning methods but noted that the call and response/mimicking was the most effective part of the class. She increased familiarity with formants by one value, and two on familiarity with vowel modification, and scaled comfortability for implementation in gender presentation as a 4/5. She filled out the exit survey a few weeks after the masterclass and noted that “I honestly don’t remember very clearly, but I think it [the key concept she learned in the class] was along the lines of reminders about physicality (avoiding tension) and intention (like, the emotional posture I was singing from).”

Participant F is a trans man on HRT (which I was verbally informed of). He noted on the entrance survey he has neurodivergence/sensory processing issues. He selected he learns best through visual, auditory, and kinesthetic learning methods but call and response/mimicking was the most effective part of the class for him. He increased the value of familiarity with formants by 2, and vowel modification by 1. He scaled his comfortability implementing concepts for gender affirmation as a 3/5. Since trans men/masc people on HRT often rely on the effects of testosterone to lower the fundamental frequency of their voice (Sauerland, 2022) which is the primary indicator of gender perception (Södersten et. al, 2024; Hero and Houston, 2023) rather than formant tuning, I can understand why he would mark the formant tuning application for gender affirmation a 3/5.

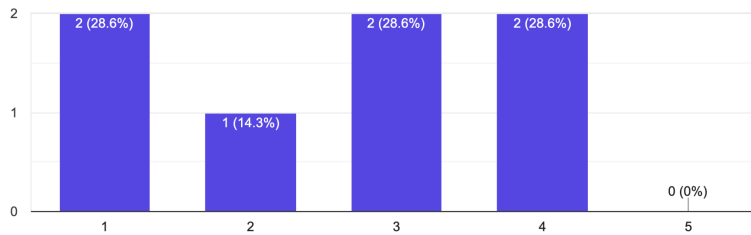
One observer took the entrance and exit survey and stated they do not have neurodivergence/sensory processing issues. They selected they learn best through visual and auditory learning methods and identifying sympathetic resonance was most effective for them. They increased familiarity with formants by 3, and familiarity with vowel modification by 1, and rated comfortability in implementing concepts for gender affirmation a 4/5.

Overall the participants gained understanding of formant tuning, vowel modification, and gender affirmation. However, it is important to note that one participant did not fill out the exit survey, so while I was given verbal feedback about the success of the class from this participant, I cannot formally conclude there is overall improvement across all participants. It is expected to see a

wide array of responses in familiarity with formants in the entrance survey, as formants are not discussed as widely as vowel modification, especially for beginning singers.

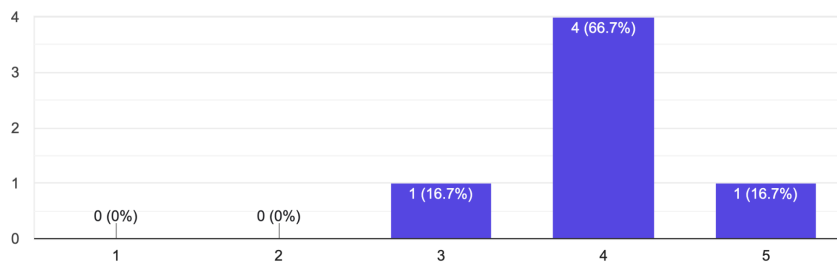
Current Understanding of Formants

7 responses



What is your understanding of formant tuning now after the class?

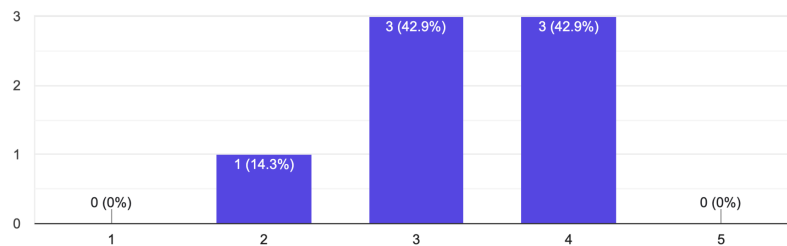
6 responses



Vowel modification is used across a wide variety of singing contexts with a vast array of purposes and outcomes, so I was not surprised to see how that was a more familiar concept to the participants.

Current Understanding of Vowel Modification

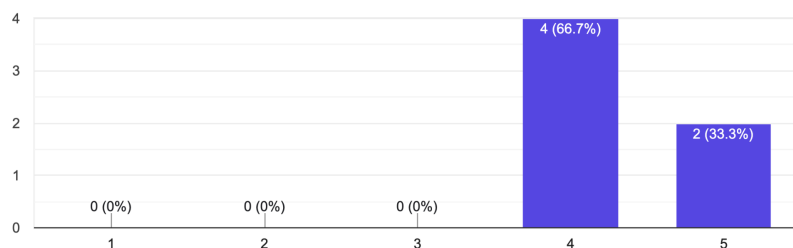
7 responses



I was pleased to see how much more familiar they were with the concept and application after the class. After reflection, I credit this to the scaffolding and sensory learning methods I utilized. By connecting and applying vowel modification to songs the singers were familiar with and would be singing, they could hear differences and strategies in a variety of contexts. They also had visual, auditory, and kinesthetic means to sense the modifications in real time. I was pleased to see there were overall higher scores on the gender affirmation survey question, as I did not detail the extensive studies in the class to prove how brighter vowels are associated with more perceived feminine qualities and darker vowels are correlated with more perceived masculine qualities. Bruner's spiral curriculum proved effective as I reiterated bright/dark vowels throughout the class, increasing the means of application.

What is your understanding of vowel modification now after the class?

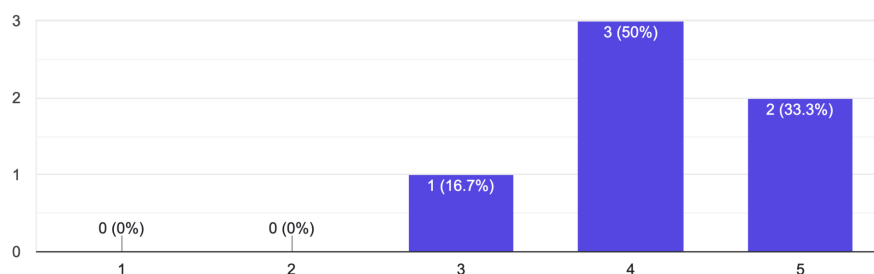
6 responses



It must be acknowledged that while formant values are measurable objective data that can alter how a voice presents, gender perception is also co-created by the person using their voice and the others perceiving it, justifying the constructivist realist ontology. The literature and findings conclude that formant values do play a role in how gender is perceived in the voice, but it is not a singular truth that can address individual perception or wide scale systemic bias.

Do you feel confident in applying these concepts to affirm your gender presentation

6 responses



While the survey results indicate the participants feel confident in applying these methods to affirm the gender presentation of their voices, perception is a variable that can be influenced, but not controlled, due to factors beyond the participant's control.

FUTURE RECOMMENDATIONS:

Based on this research, I aim to make adjustments to my pedagogical methods. As a singer, I was told to modify my vowels many times through the years, but I did not understand its significant impacts on phonation and resonance, leading to a frustrating journey from instrumentalist to vocalist. I hope that teachers can utilize some of these methods in the studio to strengthen understanding of abstract concepts like formant tuning and its practical application in the studio. These methods can also be applied outside the context of gender presentation to teach vowel modification as a general concept.

The improvement in the participants' understanding and knowing what was most effective showed that my lesson plan was effective but it also showed some places where I can improve my teaching. In hindsight, it would have been wise if I had taken time before the class to settle in and gather myself. I was teaching lessons right up until 15 minutes before the class began, and while I tend to ride the adrenaline of rushing about and multi-tasking, I see where I could have taken a more balanced approach, ate a meal, reviewed my notes, and mentally prepared myself.

As the lesson plan outlined, I gave the formal definition of formants: a peak of acoustic energy in the sound spectrum of vocal sounds, particularly vowels. Formants are resonant frequencies of the vocal tract, including the nasal cavities, throat, and mouth, which shapes the sound and creates distinction between the sounds. When participant C had asked a question regarding overtones, I should have made the distinction between how overtones are generated by sound source, and formants are shaped by resonating containers (Irene & Harris, n.d.). At the moment I did not know how to explain it concisely and in hindsight that would have clarified the concept. Also, there are more streamlined explanations of linking formants to F1 with vowel height, F2 with forward/back axis, F3 is associated with rounding, and how F3-5 are considered the 'singer's' formant (Kayes, 2015). Outlining the correlations in a more organized manner would be beneficial for future explanations.

Unfortunately, the studio did not provide the TV I had requested to display the charts so I used my iPad and laptop to show my device screen to the participants. Due to this circumstance, it's difficult to assess if visual learning methods were an effective way of teaching formant tuning, especially since the entrance survey indicated that 85.7% of participants learned best with visual aids. There was a significant live reaction in the class about the EQ values which visually indicated shifting formant values. The option on the exit survey "Visual Charts" was not specific enough to clarify that also meant the EQ graph I showed on my iPad screen with the Tonal Energy App. Specifying that tool in future surveys would be helpful to gain more insight in participant's learning preferences.

Specificity in my approaches, such as using recordings of the participants' songs that they were going to sing, did involve risk, as it could have resulted in the singers feeling self conscious. I wanted to point out vowel modification in a variety of different contexts such as age, environment, and setting, not just genre, and correlate it directly to something they could apply for themselves. This was very effective since half of the people who took the exit survey said this portion of the group class was most effective for them, whereas two people noted that call and response/mimicry was most effective for them, and one person reported identifying sympathetic resonance.

The entrance survey did ask participants to denote any neurodivergence or sensory processing issues; but there were not enough participants to draw any meaningful correlations of neurodivergence with specific sensory learning methods within this study. A design change in the study, such as interviews to gain insight on the participants' experiences with sensory processing would have lent itself to correlating learning methods to their specific sensory processing needs. This would require a larger sample of participants to draw a meaningful conclusion or a comparison group to compare various methods and people with certain learning preferences and needs.

Further investigation on how to best teach these concepts might include not just a sensory based approach, but focus more on integrating the gender affirming aspects and its applications in speaking, not just singing. I found in module 3 that trans femme people are at risk of violence and discrimination when they speak, and those who hear their voice can conclude they are trans, indicating a need for speaking applications as well. Future research to amplify the experiences of trans and gender non conforming voices is paramount in today's socio-political climate. Methods of gender affirming voice training that do not rely on Hormone Replacement

Therapy are necessary as access to HRT is jeopardized. HRT impacts not just fundamental frequency for individuals on testosterone, but also phonation for individuals taking estrogen (Sauerland, 2022). Teaching singers how vowel modification also impacts phonation, pharyngeal space, and laryngeal tilt can give them applicable tools and the agency to choose when and how they want to present their voice in a variety of contexts.

CONCLUSIONS

I set out to test the best pedagogical sensory methods to teach formant tuning and vowel modification in the context of Gender Affirming Voice Training. This project tested a lesson plan I developed using evidence from literature, and the data I drew from the class and surveys shows that the lesson plan and its methods were generally effective as we saw overall improvement in comprehension and application. Now I better understand the learning needs of trans/gender non conforming individuals in the voice studio and can hone the ability to apply these conclusions to strengthen my teaching practice.

Vowel modification impacts laryngeal and pharyngeal positioning, phonation and fold closure, and breath strategy across a wide array of musical genres. The cross-genre framework of the lesson plan proved to be very effective. These cross-genre methods of teaching vowel modification connect clearly to formant tuning (Titze, Maxfield, & Walker, 2017) with effective scaffolding. Formants influence gender presentation. Vowel brightness correlates with formant values associated with feminine speech qualities, and vowel darkness correlates with formant values associated with masculine qualities (Södersten et. al, 2024; Hero and Houston, 2023; Ghorshi, Vaseghi, and Yan 2008; Schmid and Bradley 2019; Manny, 2014; Houle & Levi, 2021; Kim, 2020; Martinho et. al, 2024), proving vowel modification is effective for gender affirming voice training.

Vowel modification has many other functions which influence each other to varying degrees, such as negotiating register shifts, style in genre, environment, melodic and rhythmic context (O'Connor, 2022). I observed multiple clenched jaws and overspreading, so creating space without over opening the jaw, (and therefore closing off the “back” space) is a necessary distinction to make. Opening space in the mouth means the tongue can take up that space, which raises the second formant values. I used the model of [i] and [ae] to use as a framework

goal to modify rounder vowels to keep a more raised tongue, as well as glides and nasal consonants.

Different pedagogical methods need to be applied individually in the voice studio and different methods for classroom settings. The group class consisted of a broad overview with a variety of methods. It requires empathy for a teacher to discern how to apply them and close the zone of proximal development (Shabani, Khatib and Ebadi, 2010), and then build upon the concepts in the framework of Bruner's spiral curriculum (Johnston, 2012). It is crucial to ask students to reflect on how they feel and communicate that to the teacher when to apply a different method (Kolb, 2015). An overall multi sensory approach works best (Laird, 1985), especially since multiple participants noted 2-3 manners of sensory learning methods were effective, not just one. This is evidence how learning is so specific to each individual's experience and sensory processing. A repeated fix "cookie cutter" method of applying brightness will not be effective for everyone, such as giving differing methods for participant B versus participant E. Given this individuality, it became evident how pedagogically sensitive different methods are in teaching technique to singers. Using scaffolding techniques, such as familiar examples in recordings, analogies and metaphors, and connecting sensory methods, only strengthens the learning experience, and solidifies comprehension and implementing effective application.

The title of the class, 'Seen and Heard,' describes this sensory pedagogical lens for teaching vowel modification. At the end of the class I praised everyone for supporting each other for we have to see each other, witness each other, and hear each other through growth which is a very vulnerable process. A key takeaway I shared with all 6 participants:

"We need to make space for the vowel like we need to make space for each other. We need to let the tongue take up space and not shrink back, as we also should take up space as well and be witnessed by each other. When we close down and pull back it is often a result of shame. Our body's biological response to shame is making ourselves smaller and quieter for self preservation and safety, resulting in a clenched jaw, which constricts the vocal apparatus. The beautiful thing about singing is showing us how to live life. We can thank our body for its responses. We don't need to be silenced by fear, guilt, and shame. We can be free, seen and heard and equipped with flexible tools to apply to our voices to show up as authentically as we can."

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LESSON *plan*

DATE:

60 min lesson plan for
Formant Tuning and Vowel Modification

LEARNING OBJECTIVE/S:

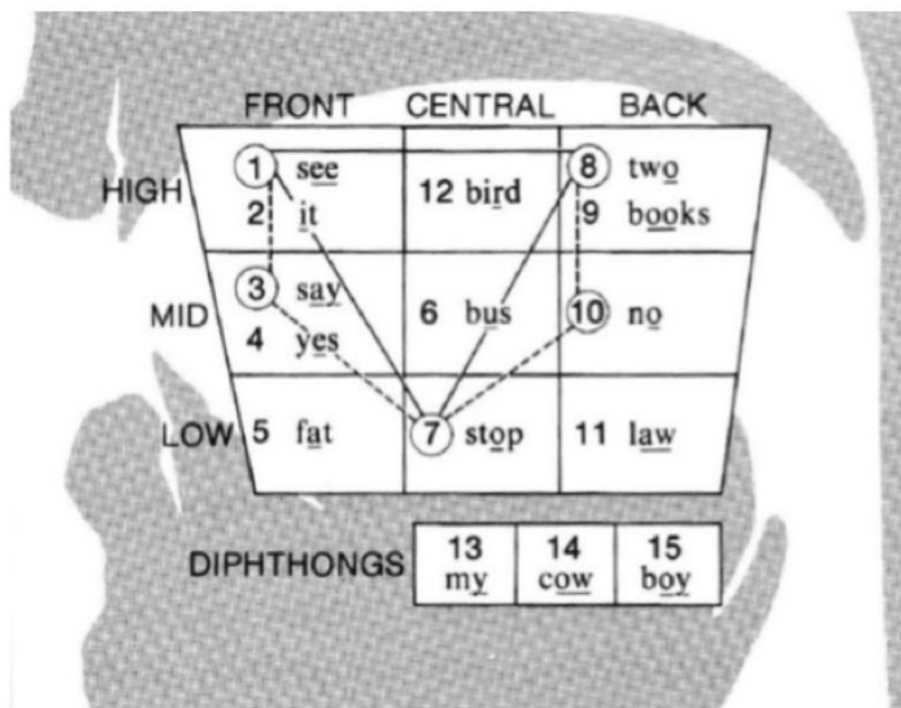
- Ability to modify vowels to alter formant values
- Identify sensational resonance cues
- Distinguish different types of vowels sounds and sensations
- Apply concepts in a song with correlating genre, or apply concepts to a song of their choice

Introduction: Accents (5 minutes)

- Invite the student to play with various accents and say a few phrases from a song.
 - This is a great chance to be silly and lighthearted to get the student out of their head.
- Say a phrase in a American Southern accent and invite the student to repeat
- Say a phrase in a British accent and invite the student to repeat
- Ask the student: What difference did you notice? Any different sensations you hear or feel?

Introduce Concept 1: Vowel Cone (Visual aid: 8-10 minutes)

- Explain the axis of the chart: open and closed/front and back
- Ask the student: What do these things mean? If they do not know, explain:
 - tongue moves from low to high for [a] [E] [i]
 - lips round from [a] [o] [u]



LESSON

plan

Lesson Topic:
Formant Tuning and Vowel Modification

Vowel Example: Sympathetic Resonance Mapping (Kinesthetic aid: 8-10 minutes)

- (tongue: demonstrate with [u] to [i])
- (lip: demonstrate with [u] to [a])
- Ask the student: How did that feel? Where did you feel sensations?
 - If they do not feel the difference, try going from something bright and twangy, such as [ngae], to a dark [a] and ask what the difference was
- Ask the student: How did that feel? Where did you feel sensations?

If there is time, you can also introduce the *soft palate nose pinch test* for nasality vs lifted soft palate vs “lofted” soft palate

Vowel Vocal Warm Up: (5 minutes) (transpose as needed for individual student)

trans-femme: 

trans-masc: 

Introduce Concept 2: Formants (5 minutes)

Definition of formants: A formant is a peak of acoustic energy in the sound spectrum of a speech sound, particularly vowels. These are the resonant frequencies of the vocal tract (including the throat, mouth, and nasal cavities) that are enhanced, shaping the sound and allowing for the distinction between different vowels.

Gender perception: explain that while fundamental frequency is the main predictor of gender perception, formant tuning and resonance are the next key factors in singing. In speech, there are other factors such as syllabic stress, phonation patterns, quality, etc.

Introduce Concept 3: Vowel Modification (10 minutes)

A helpful analogy: using vowel modification is like using watercolors- you can use brightening/darkening, etc., to achieve different shades of vowel.

For example, in singing “You” to brighten and achieve more twang and therefore boost the second formant, encourage the student to make the Pure [u] “oo” to sound more “ew” like with disgust.

	OPERA	OPERA	LEGIT	CHOIR	POP	BELT	R&B	JAZZ	ROCK	COUNTRY
Resonator Shape	INSIDE SMILE FISH-FACE	INSIDE SMILE	INSIDE SMILE	INSIDE SMILE	SMILE	MOLAR MOUTH	WATER-IN-THE-MOUTH	FISH-LIPS	SQUARE MOUTH	FULL-TUBE
Breathy-Toney										
Degree of Nasality										
Ratio of Straight Tone - Vibrato	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB
Vibrato Type	CLASSICAL	CLASSICAL	CLASSICAL	CLASSICAL	POP	JAZZ	JAZZ	JAZZ	POP	POP
Vibrato Speed										
Larynx Position Sensation										
Degree of Laryngeal Lean	NO LEAN	CSL	PSL FULL LEAN	CSL NO LEAN	FULL LEAN PSL	FULL LEAN	FULL LEAN	FULL LEAN PSL	FULL LEAN	FULL LEAN
Dialect	STANDARD, BRITISH	STANDARD, BRITISH	STANDARD	STANDARD	STANDARD	STANDARD	SOUTHERN BLACK	STANDARD	STANDARD, SO. BLACK	SOUTHERN
Pharynx	(W) N C	(W) N C	W(N) C	(W) N C	W(N) C	W(N) C	(W) N C	W(N) C	W N(C)	W N(C)
Resonance Sensations										
Emotions	GRAND, PASSIONATE, REFINED, PROUD	ROMANTIC, SENTIMENTAL, SWEET, EFFUSIVE	KIND, HONEST, DIRECT, REFINED	PLAIN, DIRECT, SINCERE, EGOTIST	NICE, SWEET, SINCERE, WARM	STRONG, CONFIDENT, SASSY, ANGRY	SENSUOUS, ASSERTIVE, MERCURIAL, MANIPULATIVE	KNOWING, MATURE, MEDITATIVE, SENSUOUS	REBELLIOUS, SEXUAL, WILD, FEARLESS	SIMPLE, SWEET, HONEST, RESIGNED
Clarity of Articulation	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP	MURMBLY DRIP
Vowel Shift	CH	AH	AY	AH	EE	AA	DARK AA	UH	U	OO
Stylisms	GLIDES, TRILLS, MELISMA	GLIDES, SWOOPS			CRY, FRY	STOPS	SLIDES, BLUES RUNS, FRY	SCATTING, FRY	FRY, GROWL, SLIDES	YODEL, CRY, FRY

Figure 2. Visual Analysis of Resonating Factors in Various Genres. (Popeil, 2017)

Auditory Exercise (aural aid): (8 minutes)

Ask the student: What are the different characteristics of the genres they enjoy? Encourage them to think not just in terms of vocal style, but also in terms of production, arrangement, and other characteristics.

Listening to genre in the context of vocal style:

- trans-femme: musical theater/country twang and brightness will help boost the second formant
- trans-masc: classical/choral vowel rounding of the mouth will help lower the fourth formant

Listening to vowels (Find some YouTube recordings, slow down the speed of the video, and then analyze the vowels with the student)

Prompt the student to mimic the sounds of the vowels and identify where they sense the sympathetic resonance

Repertoire Application: (20 minutes)

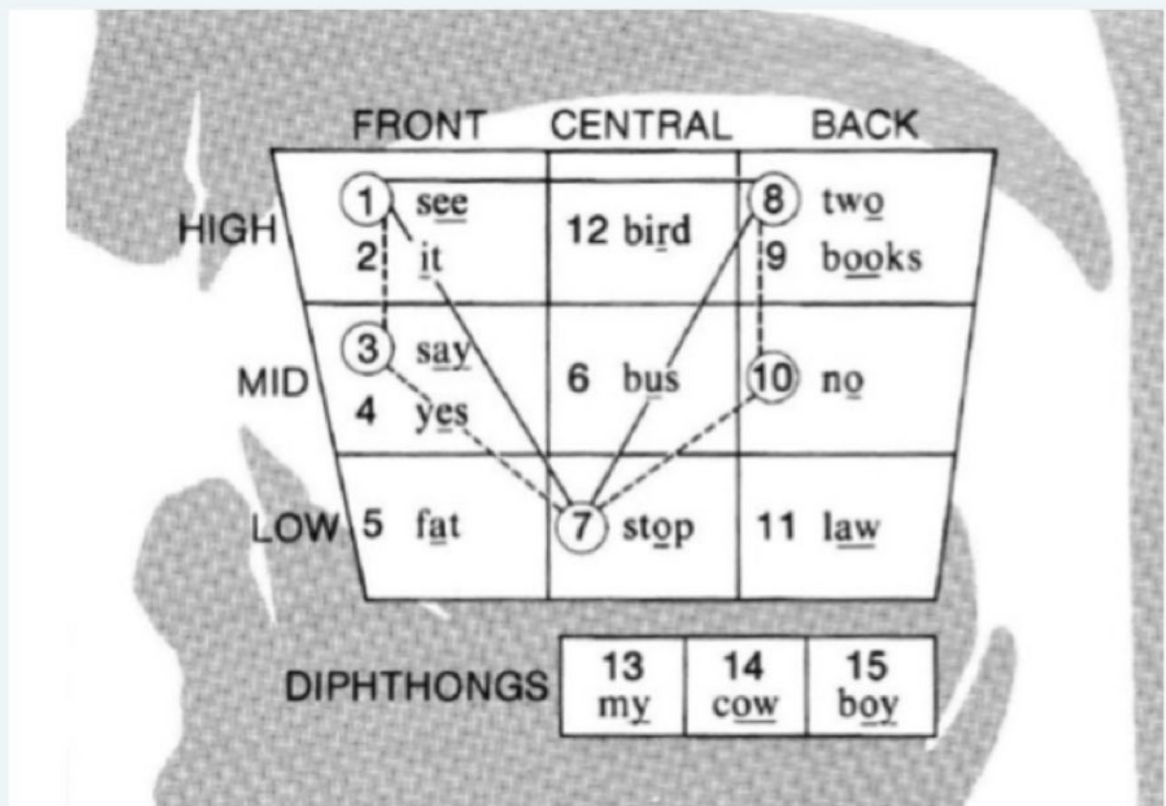
Apply these new concepts to modify vowels and resonance to a song of their choice.

It is important to give the student agency in what they sing, unless it is too difficult for their current abilities.

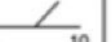
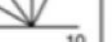
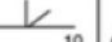
Providing a list of suggestions can help, or asking for a list of their favorite artists and then selecting a song that is appropriate for their current ability.

Look through the lyrics and find various vowel-consonant combinations that can help the student.

Graphics for presentation:



Graphics for presentation:

	OPERA	OPERETTA	LEGIT	CHOIR	POP	BELT	R&B	JAZZ	ROCK	COUNTRY
Resonator Shape	INSIDE SMILE FISH-FACE	INSIDE SMILE	INSIDE SMILE	INSIDE SMILE	SMILE	MOLAR MOUTH	WATER-IN-THE-MOUTH	FISH-LIPS	SQUARE MOUTH	FULL-TUBE
Breathy-Toney										
Degree of Nasality										
Ratio of Straight Tone - Vibrato	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB	ST VIB
Vibrato Type	CLASSICAL	CLASSICAL	CLASSICAL	CLASSICAL	POP	JAZZ	JAZZ	JAZZ	POP	POP
Vibrato Speed	S F	S F	S F	S F	S F	S F	S F	S F	S F	S F
Larynx Position Sensation										
Degree of Laryngeal Lean	NO LEAN	CSL	PSL FULL LEAN	CSL NO LEAN	FULL LEAN PSL	FULL LEAN	FULL LEAN	FULL LEAN PSL	FULL LEAN	FULL LEAN
Dialect	STANDARD, BRITISH	STANDARD, BRITISH	STANDARD	STANDARD	STANDARD	STANDARD	SOUTHERN BLACK	STANDARD	STANDARD, SO. BLACK	SOUTHERN
Pharynx	(W) N C	(W) N C	W (N) C	(W) N C	W (N) C	W (N) C	(W) N C	W (N) C	W N (C)	W N (C)
Resonance Sensations										
Emotions	GRAND, PASSIONATE, REFINED, PROUD	ROMANTIC, SENTIMENTAL, SWEET, EFFUSIVE	KIND, HONEST, DIRECT, REFINED	PLAIN, DIRECT, SINCERE, EGOLESS	NICE, SWEET, SINCERE, WARM	STRONG, CONFIDENT, SASSY, ANGRY	SENSUOUS, ASSERTIVE, MERCURIAL, MANIPULATIVE	KNOWING, MATURE, MEDITATIVE, SENSUOUS	REBELLIOUS, SEXUAL, WILD, FEARLESS	SIMPLE, SNIDE, HONEST, RESIGNED
Clarity of Articulation	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP	MUMBLY CRISP
Vowel Shift	OH	AH	AY	AH	EE	AA	DARK AA	UH	U	OO
Stylisms	GLIDES, TRILLS, MELISMA	GLIDES, SWOOPS			CRY, FRY	STOPS	SLIDES, BLUES RUNS, FRY	SCATTING, FRY	FRY, GROWL, SLIDES	YODEL, CRY, FRY

APPLICATION FOR ETHICAL APPROVAL

RESEARCH STUDENTS

This form is to be completed by the student within **SIX** months for full-time students and **TWELVE** months for part time students, after the commencement of the research degree or following progression to Part Two of your course.

Once complete, submit this form via the **MyTSD Doctoral College Portal** at (<https://mytsd.uwtsd.ac.uk>).

This document is also available in Welsh.

RESEARCH STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

1	Full Name:	Jillian "Jae" Elizabeth Carelli			
2	Tick all boxes that apply:	Member of staff:	☐	Honorary research fellow:	☐
	Undergraduate Student	☐	Taught Postgraduate Student	☒	Postgraduate Research Student
					☐

3	Institute/Academic Discipline/ Centre:	WAPPAR
4	Campus:	Carmarthen

5	E-mail address:	jae.carelli@gmail.com
6	Contact Telephone Number:	774.454.2374
For students:		
7	Student Number:	2319770
8	Programme of Study:	MA Professional Practice (Voice Pedagogy)
9	Director of Studies/Supervisor:	Louise Emanuel / Julie Crossman / Debbie Winter

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
					Date
2	If Yes, please indicate source of approval (and date where known): Approval in principle must be obtained from the relevant source prior to seeking ethical approval	Research Degrees Committee	☐		
Institute Research Committee		☐			
WAPPAR Ethics Board Representative*		☒			

SECTION C: Internal and External Ethical Guidance Materials

Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.		
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3	Office for Human Research Protections: 45 CFR 46	☒

SECTION D: External Collaborative Research Activity

If there are external collaborators then you should gain consent from the contact persons to share their personal data with the university. If there are no external collaborators then leave this section blank and continue to section E.

1	Institution	Singing Lessons NYC by Eleonor England
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2	Contact person name	Eleonor England				
3	Contact person e-mail address	singing.Lessons.NYC@gmail.com				
4	Is your research externally funded?	YES	☐	NO	☒	
5	Are you in receipt of a KESS scholarship?	YES	☐	NO	☒	
6	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☒
7		Employed	YES	☐	NO	☒
8	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)?	If YES then the permission question below does not need to be answered.	YES	☐	NO	☒
9	Has permission to undertake the research has been provided by the partner organisation?	(If YES attach copy) If NO the application cannot continue	YES	☒	NO	☐

Where research activity is carried out in collaboration with an external organisation

10	Does this organisation have its own ethics approval system?	YES	☐	NO	☒
If Yes, please attach a copy of any final approval (or interim approval) from the organisation (this may be a copy of an email if appropriate).					

SECTION E: Details of Research Activity

1	Indicative title:	Effectively teaching Formant Tuning as a tool in Gender Affirming Voice Training			
2	Proposed start date:	February 2026	Proposed end date:	May 2026	
Introduction to the Research (maximum 300 words per section) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the points below: • Purpose of Research Activity • Proposed Research Question • Aims of Research Activity • Objectives of Research Activity Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • What the research activity will add to the body of knowledge • How it addresses an area of importance.					



3	Purpose of Research Activity One of the main challenges transgender singers face is being perceived as the gender they identify with, especially since the field of singing utilizes strict gender binaries to describe and cast singers in roles and voice types (Sauerland, 2022). HRT and gender affirming healthcare is jeopardized (Trans Legislation Tracker, 2025). It is a crucial time to determine ways to support trans singers in the voice studio, especially for transfemme singers, HRT does not alter fundamental pitch of their speaking voice, unlike transmasculine singers who are on testosterone, which does cause the vocal folds to thicken and therefore drop in fundamental pitch (Saureland 2022). While fundamental frequency of pitch is the primary indicator of gender perception in the voice, there are many studies done to show that formants as well as other speech patterns and characteristics play a large role in gender perception of the voice. (Hero and Houston, 2023; Ghorshi, Vaseghi, and Yan 2008; Schmid and Bradley 2019; Manny, 2014; Houle & Levi, 2021; Kim, 2020; Martinho et. al, 2024). This artefact is a lesson plan for teachers introducing the concept of formant tuning for transgender singers who are often overwhelmed with the information they are initially presented with. This leaves many singers feeling disheartened, and unaffirmed- which is the whole point of GAVT. My approach in the studio connects concepts the student is familiar with such as accents and different genres/styles to new concepts such as vowel modification and formant tuning. The lesson plan is designed to utilize multi sensory learning and scaffolding methods to assist the student in accomplishing the objectives, which broadens the typical pedagogical approach of mimicry and modeling with just words. By broadening the scaffolding tools to encompass cross genre singing and accents, it provides extra reinforcement and connection to create a holistic perspective to formant tuning in gender affirming voice therapy/training.
4	Research Question Is the lesson plan I developed viable and effective for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception? (this box should expand as you type)
5	Aims of Research Activity I aim to test the lesson plan in a group class/master class setting at my place of employment, and gain insights into how participants experienced the lesson and learned to apply the concepts effectively. (this box should expand as you type)
6	Objectives of Research Activity I will survey the participants before and after the class to assess their understanding of the concepts, their experience, and their confidence in application. (this box should expand as you type)
	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods here, but should instead describe how you intend to collect the data necessary for you to complete your project.



7	I aim to utilise mixed methods for conducting this research. By employing both qualitative and quantitative approaches,, as well as qualitative data concerning experiences and descriptive data. 1. <u>Review of evidence and literature</u>: to inquire about how formants are a key part of gender perception, and how formant tuning and vowel modification are utilized in familiar concepts such as singing across genres and accents, and the best pedagogical tools to teach these concepts. 2. <u>Surveys</u>: investigating the experiences of participants before, during, and after the class. 3. <u>Questionnaire</u>: gathering information on masterclass participants such as HRT information, age, assigned sex at birth etc. 4. <u>Reflective Journal and Field Notes</u>
	Location of research activity Identify all locations where research activity will take place.
8	This will take place at Ripley Grier Studios in New York City (either 305 West 38th or 520 8th Ave) (this box should expand as you type)
	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants. If you live in the country where you will do the research then please state this.
9	The National Institute of Health in the United States of America outlined seven principles for conducting ethical research with human subjects, which are: • Social and clinical value • Scientific validity • Fair subject selection • Favourable risk-benefit ratio • Independent review • Informed consent • Respect for potential and enrolled subjects Alongside the “Common Rule,” which is based upon the Belmont Principles. These principles align with what ethical considerations are required in the United Kingdom and at the university. There is also the issue of participant vulnerabilities as they are working with and around sensitive topics such as health, gender presentation and perception, and identity. According to the Belmont Principles, this can be mitigated by means outlined in Section H box 2 below. (this box should expand as you type)

10	Use of documentation not in the public domain: Are any documents <u>NOT</u> publicly available?	NO	X
		YES	☐
11	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with the current data protection law of the country in question and that of England and Wales. (this box should expand as you type)		

	Does your research relate to one or more of the seven aims of the Well-being of Future Generations (Wales) Act 2015?	YES	NO
12	A prosperous Wales	☐	X
13	A resilient Wales	☐	X
14	A healthier Wales	☐	X
15	A more equal Wales	☐	X
16	A Wales of cohesive communities	☐	X
17	A Wales of vibrant culture and thriving Welsh language	☐	X
18	A globally responsible Wales	☐	X
19	If YES to any of the above, please give details:		
	(this box should expand as you type)		

SECTION F: Scope of Research Activity

	Will the research activity include:	YES	NO
1	Use of a questionnaire or similar research instrument?	X	☐
2	Use of interviews?	X	☐
3	Use of focus groups?	☐	X
4	Use of participant diaries?	☐	X
5	Use of video or audio recording?	X	☐
6	Use of computer-generated log files?	☐	X
7	Participant observation with their knowledge?	X	☐
8	Participant observation without their knowledge?	☐	X
9	Access to personal or confidential information without the participants' specific consent?	☐	X
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	X
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	X
12	Investigation of participants involved in illegal activities?	☐	X
13	Use of procedures that involve deception?	☐	X
14	Administration of any substance, agent or placebo?	☐	X

15	Working with live vertebrate animals?	☐	X
16	Procedures that may have a negative impact on the environment?	☐	X
17	Other primary data collection methods. Please indicate the type of data collection method(s) below.		
	Details of any other primary data collection method: (this box should expand as you type)	☐	☐

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

If there are no participants then do not complete this section, but go directly to section H.

Who are the intended participants:		YES	NO
1	Students or staff at the University?	☐	X
2	Adults (over the age of 18 and competent to give consent)?	X	☐
3	Vulnerable adults?	☐	X
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	X
5	Prisoners?	☐	X
6	Young offenders?	☐	X
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	X
8	People engaged in illegal activities?	☐	X
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent.		
	Details of any other participant groups: Participants will be adults who identify as transgender/gender non-conforming. (this box should expand as you type)	☐	☐

Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?

10	How many participants are expected?	6-8 for Masterclass up to 100 for group class/lecture <i>(this box should expand as you type)</i>
11	Who will the participants be?	Individuals over the age of 18 who identify as transgender/gender non-conforming <i>(this box should expand as you type)</i>
12	How will you identify the participants?	My place of employment, Singing Lessons NYC by Eleonor England, will advertise this class with their email newsletter, and send a call out to the transgender non-conforming singing community in NYC. I will also share this class with the TRANScend Sings community, a transgender non-conforming choral community I participate in. I will identify the participants as A B C D etc. and include information such as gender/pronouns, sex assignment at birth, age, languages they speak/dialects/accents they use, and any HRT/gender affirming health care that impacts the voice. I will exclude any other identifying information to protect privacy. <i>(this box should expand as you type)</i>

	Information for participants:	YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	X	☐	☐
14	Will you tell participants that their participation is voluntary?	X	☐	☐
15	Will you obtain written consent for participation?	X	☐	☐
16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	X	☐	☐
17	If the research is observational, will you ask participants for their consent to being observed?	X	☐	☐
18	Will you tell participants that they may withdraw from the research at any time and for any reason?	X	☐	☐
19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	X	☐	☐
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	X	☐	☐
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	X	☐	☐
22	If NO to any of above questions, please give an explanation			
	<i>(this box should expand as you type)</i>			

Information for participants:		YES	NO	N/A
24	Will participants be paid?	☐	X	☐
25	Is specialist electrical or other equipment to be used with participants?	X	☐	☐
26	Are there any financial or other interests to the investigator or University arising from this study?		X	☐
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	X	☐
28	If YES to any question, please provide full details			
A video recording will be made of the class and use of my personal laptop. <i>(this box should expand as you type)</i>				

SECTION H: Anticipated Risks

Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.			
1	Full risk assessment completed and appended?	Yes	☐
		No	X
2	Risks to participants For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
	Risk to participants: Teaching topics surrounding health and identity, and gender presentation/perception, which can be sensitive topics. Sensitive issues can pose a risk to one's mental health, especially if they do not have resources or capacity to manage stress, or recollection of difficult or traumatic events. General potential hazards such as tripping over wires, chairs etc. <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to participants:</i> Disclose the potentially sensitive topics, and assure participants they can leave at any time in the informed consent. Listing mental health resources that can assist the participants, if they feel like they need professional help. • Trans New York: (for participants local in my area) https://transnewyork.org/individual-support 917-789-7490. Clarify confidentiality policies. Disclose what identifiers may be disclosed, or are at risk of disclosure Ensuring that the wires are taped down, a clear pathway is made for participants to move in, then making sure everyone knows where fire exits are. <i>(this box should expand as you type)</i>	



3	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities		
	As stated above in box two, I will list the proper mental health resources that can assist the participants if they feel like they need professional help. • Trans New York: (for participants local to the area where the research will be conducted) https://transnewyork.org/individual-support 917-789-7490.		
4	Risks to the investigator For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest		
	Risk of accusation/harm since I am asking participants to perform in front of others, which can be a vulnerable experience. Conflict of interest since I may or may not personally/professionally know the participants Insider positionality, which can be an intense experience for me, as participants may share very emotive descriptions of their experience. <i>(this box should expand as you type)</i>	Outline a detailed consent form, stating there is no intent to harm, only help to grow the body of research. Rely on my course instructor to ensure my potential prior relationships with participants do not create harmful bias. Work with my therapist, who specializes in Compassion Focused Therapy, to not over-empathize and take on the intense experiences of others. <i>(this box should expand as you type)</i>	
5	University/institutional risks For example: adverse publicity, financial loss, data protection		
	Risk to the University: Risk to University reputation if research is not conducted securely professionally and properly Potential Data breach <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to the University:</i> conduct research in a professional and ethical manner Storing data properly as per university guidelines <i>(this box should expand as you type)</i>	
6	Environmental risks For example: accidental spillage of pollutants, damage to local ecosystems		
	Risk to the environment: NA <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to environment:</i> <i>(this box should expand as you type)</i>	

Disclosure and Barring Service			
If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A

7	Does your research require you to hold a current DBS Certificate?	☐	☒	☐
8	If YES, please give the certificate number. If the certificate number is not available please write "Pending"; in this case any ethical approval will be subject to providing the appropriate certificate number.			

SECTION I: Feedback, Consent and Confidentiality

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when?
	Debriefing and feedback will be provided for participants. Participants will receive a copy of the data collected about themselves, and also an overview of the data collected and conclusions drawn in a document. This will be done once the module assignment is graded and returned with remarks.
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	Participants will be informed of how data will be collected through surveys, questionnaires, and Video/audio recording of the class. They will know their data will be collected through google forms stored on google drive. They will have a full understanding of the nature of the questions, the full scope of the topics, and how the data will be about some aspects of their voice, identity, and health details. They will know they may withdraw at any time, and their data will be protected. They will sign their consent on a form I will create and verbally confirm their consent at the beginning of their participation. <i>(this box should expand as you type)</i>
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.
	Participants will be protected with anonymity and be referred to by assigned participant letter. Their Information will be kept confidential for the sole purpose of this research. <i>(this box should expand as you type)</i>

SECTION J: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
1	"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.	X	☐



	If YES, provide a description of the data and explain why this data needs to be collected:		
2	Video data of the participants in the class performing will be necessary for me to look back on and draw additional data from. <i>(this box should expand as you type)</i>		
	Does it involve special category data (as defined by the GDPR)?	YES	NO
3	“Special category data” means sensitive personal data consisting of information as to the data subjects’ – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics, (h) biometric data (as used for ID purposes),	X	☐
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	This special category data would include information regarding the participant’s physical health regarding trans affirming health care that impacts the vocal apparatus. <i>(this box should expand as you type)</i>		

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	YES	NO
5	Manual files (i.e. in paper form)?	☐	X
6	University computers?	☐	X
7	Private company computers?	☐	X
8	Home or other personal computers?	☐	X
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	X	☐
10	“Cloud” storage or websites?	X	☐
11	Other – specify:	☐	☐
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation:		
	Data will be kept confidential and secure in a password protected google drive account. Audio of the interviews will be transcribed and shared with participants for accuracy. All devices which the data is stored on are password protected. Participants will be kept anonymous by using a unique identifier. <i>(this box should expand as you type)</i>		

Data Protection

	Will the research activity involve any of the following activities:	YES	NO
13	Electronic transfer of data in any form?	☒	☐
14	Sharing of data with others at the University outside of the immediate research team?	☐	☒
15	Sharing of data with other organisations?	☐	☒
16	Export of data outside the UK or importing of data from outside the UK?	☒	☐
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☒	☐
18	Publication of data that might allow identification of individuals?	☐	☒
19	Use of data management system?	☐	☒
20	Data archiving?	☐	☒
21	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and any international equivalents, where appropriate):		
	Since I am residing in the United States of America I will be exporting data from this country to the United Kingdom where I am enrolled in an online Masters program. I will be using my personal phone number to reach out to participants to coordinate the interviews. All data will be encrypted and kept in password protected cloud storage on Google Drive which will not be shared. Any USB sticks used to store or transfer data will be password protected. All data transfers will be encrypted, and password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. The data will be stored until the completion of the project and then deleted. In accordance with the DPA2018 and the NIH Policy for Data Management and Sharing (DMS), participants will have the right to ask to see what data is held relating to them, and this data will be deleted immediately if the participant requests this, in which case the data will not be used in the project. <i>(this box should expand as you type)</i>		
22	List all who will have access to the data generated by the research activity:		
	Jillian "Jae" Carelli and all course supervisors for this module of the professional practice course <i>(this box should expand as you type)</i>		
23	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Jillian "Jae" Carelli the sole and primary researcher <i>(this box should expand as you type)</i>		
24	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	Data will be password protected in files on my computer and on Google Forms. Data will be stored while the module assignment is being completed. All data will be encrypted and kept in password protected cloud storage on Google Drive which will not be shared. Any USB sticks used to store or transfer data will be password protected and will be reformatted at the end of the project in order to destroy the data. The data will be stored until the completion of the project and then deleted. <i>(this box should expand as you type)</i>		



25	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. <i>(Most relevant to academic staff)</i>		
	<i>(this box should expand as you type)</i>		
26	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	X
27	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	X

SECTION K: Declaration

The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/			
1	Signature of applicant:	J. Carelli	Date: 1/11/26

For STUDENT Submissions:

2	Director of Studies/ Supervisor:		Date:
3	Signature:		

For STAFF Submissions:

4	Academic Director/ Assistant Dean:		Date:
5	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

X	I have read the guidance notes supplied before completing the form.
X	I have completed ALL RELEVANT sections of the form in full.
X	I confirm that the research activity has received approval in principle
X	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (where appropriate) ONLY TICK IF YOU HAVE ATTACHED A FULL RISK ASSESSMENT
X	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
x	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.

RESEARCH STUDENTS ONLY

Once complete, submit this form via the **MyTSD Doctoral College Portal** at (<https://mytsd.uwtsd.ac.uk>).

RESEARCH STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.



Jae Carelli <jae.carelli@gmail.com>

Write up for Group/Masterclass

Singing Lessons NYC <[REDACTED]>
To: Jae Carelli <jae.carelli@gmail.com>

Thu, Jan 8, 2026 at 4:37 PM

Hey jae! You absolutely have permission.

On Thu, Jan 8, 2026 at 12:57 PM Jae Carelli <jae.carelli@gmail.com> wrote:

H [REDACTED]

Here is the write-up for the class!

I just need you to state permission to conduct this research (an email reply stating that using this opportunity for my thesis work will suffice). Please let me know if you have any questions or feedback

Thank you!

Jae

Formant Tuning & Vowel Modification in Trans-Inclusive Voice Pedagogy

Are there other tools and techniques that support gender affirmation in the voice that are not just HRT or surgery? This group lecture and interactive masterclass explores **formant tuning and vowel modification** as practical, flexible tools in **trans-inclusive and gender-affirming voice care training**. Designed for trans and gender non-conforming singers, this session investigates the many accessible tools singers can utilize to present their voice authentically. There is also an option for attendees to participate in the facilitator's research to fulfill their MA in Voice Pedagogy by filling out two anonymous surveys.

Participants will:

- Examine how formant tuning and vowel modification shape perceived vocal characteristics
- Learn trans-inclusive pedagogical frameworks that teach resonance and timbre
- Explore strategies that prioritize practical tools to give singers options to present their empowered voice with agency
- Apply techniques through guided sensory exercises, listening, demonstration, and optional participant engagement
- Reflect on how traditional pedagogy can be adapted to better serve trans, nonbinary, and gender-expansive voices

This session offers practical tools for **affirming, responsive, and effective vocal pedagogy** for singers of all levels.

Format: Group class/lecture with masterclass component

Audience: Trans/Gender Non-Conforming Singers

Informed Consent Form

Title of Project: Most effective pedagogical approaches for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception.

Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

i) Invitation to Participate:

You are being invited to participate in a research study. Through the study, we hope to expand our understanding of how to best equip transgender/gender nonconforming individuals with the concepts and application of formant tuning in gender presentation.

ii) Purpose of Study:

The purpose of this study is to fill a gap in knowledge in the area of transgender voices, and obtain useful information that has the potential to understand the experiences of trans voices as they learn, integrate, and apply the concepts of formant tuning and vowel modification so trans/gender non conforming individuals can to present their voice in a variety of ways that they choose fits them best.

iii) Participant Selection:

You were notified of this opportunity to participate because you are an individual who identifies as transgender or gender non conforming. We value your contributions and experiences and believe that your feedback will increase our understanding of how trans/gender non conforming individuals present, perceive, and use their voices.

iv) Procedures:

Participants will be asked to fill out an entrance and exit survey. Participants can remain anonymous by using a pseudonym, but please use the same pseudonym so I can connect the responses to the same participant.

Participants will then observe a group class and have the option to participate and perform in front of the group in a masterclass format. You may choose to withdraw participation at any time.

v) Potential Risks:

Risks to the participants include psychological risks associated with talking or hearing about sensitive topics, as well as topics about voice presentation or perception in the context of gender.

vi) Potential Benefits:

The benefits of this study for participants is that the study may help the voice pedagogy community understand how trans individuals perceive and relate to their voice and utilize their voice in everyday life, and in society as a whole.

vii) Financial Obligation:

There is no financial obligation to the participant.

viii) Compensation/Treatment:

There is no additional compensation aside from the fees being waived for the class associated with participation.

ix) Confidentiality:

Audio recordings of the class will not contain identifiable data of the observing participants. Recordings will be deleted after they have been transcribed and transcriptions will use pseudonyms to protect confidentiality.

Survey and questionnaire responses and the video recording of the class will be kept in digitized files on the researcher's password-protected laptop and consent forms and questionnaires will be kept in secure password protected google drive accounts. All records will be destroyed 1 year after the study ends.

x) Participation:

Participation in this research study is completely voluntary. If at any time you decide that you do not want to participate in this study, your participation will be withdrawn without penalty.

Questions/Comments:

You can contact the primary investigator if you have questions/concerns about this study.

Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

Agreement to Participate:

Please print your name where designated below if you agree to take part in the study.

Your signature indicates that you have read and understand the information provided in this document, and that you agree to participate in the study. If at any time you have questions or concerns regarding this study, feel free to contact the primary investigator at the telephone numbers or email addresses provided in this document.

Name as signature (you may use a pseudonym to remain anonymous, just please use the same one for all the forms in this study)



Participant F

Google Forms

Informed Consent Form

Title of Project: Most effective pedagogical approaches for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception.

Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

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vii) Financial Obligation:

There is no financial obligation to the participant.

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Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

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Participant A

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Google Forms

Informed Consent Form

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Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

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iii) Participant Selection:

You were notified of this opportunity to participate because you are an individual who identifies as transgender or gender non conforming. We value your contributions and experiences and believe that your feedback will increase our understanding of how trans/gender non conforming individuals present, perceive, and use their voices.

iv) Procedures:

Participants will be asked to fill out an entrance and exit survey. Participants can remain anonymous by using a pseudonym, but please use the same pseudonym so I can connect the responses to the same participant.

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v) Potential Risks:

Risks to the participants include psychological risks associated with talking or hearing about sensitive topics, as well as topics about voice presentation or perception in the context of gender.

vi) Potential Benefits:

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vii) Financial Obligation:

There is no financial obligation to the participant.

viii) Compensation/Treatment:

There is no additional compensation aside from the fees being waived for the class associated with participation.

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x) Participation:

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Questions/Comments:

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Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

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Participant C

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Google Forms

Informed Consent Form

Title of Project: Most effective pedagogical approaches for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception.

Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

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iii) Participant Selection:

You were notified of this opportunity to participate because you are an individual who identifies as transgender or gender non conforming. We value your contributions and experiences and believe that your feedback will increase our understanding of how trans/gender non conforming individuals present, perceive, and use their voices.

iv) Procedures:

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v) Potential Risks:

Risks to the participants include psychological risks associated with talking or hearing about sensitive topics, as well as topics about voice presentation or perception in the context of gender.

vi) Potential Benefits:

The benefits of this study for participants is that the study may help the voice pedagogy community understand how trans individuals perceive and relate to their voice and utilize their voice in everyday life, and in society as a whole.

vii) Financial Obligation:

There is no financial obligation to the participant.

viii) Compensation/Treatment:

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ix) Confidentiality:

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Questions/Comments:

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Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

Agreement to Participate:

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Participant E

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Google Forms

Informed Consent Form

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Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

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iii) Participant Selection:

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vii) Financial Obligation:

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x) Participation:

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Questions/Comments:

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Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

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Participant B

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Google Forms

Informed Consent Form

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Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

i) Invitation to Participate:

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Questions/Comments:

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Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

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Participant D

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Google Forms

Informed Consent Form

Title of Project: Most effective pedagogical approaches for trans and gender queer singers to learn the concept of formant tuning in terms of gender presentation and perception.

Researcher: Jae Carelli (they/them)

Contact Information: Telephone 774.454.2374 Email jae.carelli@gmail.com

i) Invitation to Participate:

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Participation in this research study is completely voluntary. If at any time you decide that you do not want to participate in this study, your participation will be withdrawn without penalty.

Questions/Comments:

You can contact the primary investigator if you have questions/concerns about this study.

Primary investigator/Researcher: Jae Carelli, Master of the Arts in Voice Pedagogy candidate at the Voice Study Center, University of Wales, Trinity St. David. Telephone 774.454.2374 Email jae.carelli@gmail.com

Agreement to Participate:

Please print your name where designated below if you agree to take part in the study.

Your signature indicates that you have read and understand the information provided in this document, and that you agree to participate in the study. If at any time you have questions or concerns regarding this study, feel free to contact the primary investigator at the telephone numbers or email addresses provided in this document.

Name as signature (you may use a pseudonym to remain anonymous, just please use the same one for all the forms in this study)



Observer 1

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Masterclass Participant Form

Please fill this out by March 25th so I can adequately prepare to work with you in the masterclass.

Name (the one you would like me to use to address you in the class)

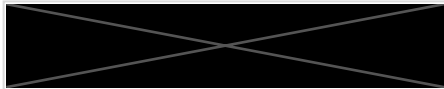


Participant F

Pronouns/Gender Identifiers

He/him

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Just Felix

If so, when and how long have you been in voice training?

Maybe 1.5 years in total of biweekly lessons

What are your goals for gender presentation in your voice?

I just want to sing well :o)

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

In Darkness Let Me Dwell (Dowland)

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 Dowland - In dar...

 Add file

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Name (the one you would like me to use to address you in the class)

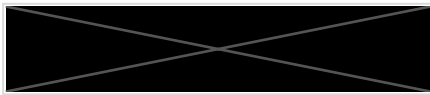


Participant A

Pronouns/Gender Identifiers

All/ He/She/They

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Lessons in choir as a child, lessons with you as an adult! <3

If so, when and how long have you been in voice training?

Intermittently throughout life. After I stopped vocal training in grade school I maintained my own practicing well into my Highschool years but fell off in college around 2010. I picked it back up around 2021 when I decided to start practicing walking and singing for endurance which led to taking lessons with you in 2023/2024

What are your goals for gender presentation in your voice?

I have a deep desire to have both as deep a voice as possible and as lilty a voice as possible. It feels dysphoric to only present in a higher pitch and I have been exploring a lower speaking register. I wish to both deepen and heighten my voice in order to truly master my occupancy between the feminine and masculine.

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

You know me pretty well at this point but I have found that encouraging me through my fuck ups works super well. I'm hyper conscious about the "first take" of whatever I speak or sing being good but after a few test runs I find my bearings in what I am truly trying to do with my voice in any given song. Just understand that I need a "mulligan" before I start getting comfortable enough to sound closer to how I want. (Is this a fancy way of saying I'm cognizant of my learning curve? lol) I'm also trying to to learn how to project and or scream? I want to try to learn how to do it while maintaining my vocal clarity. I've been working on the song below for some time now.

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

Nomoreroses - Holding Absence

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 Add file

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Name (the one you would like me to use to address you in the class)

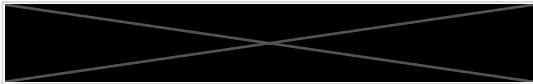


Participant C

Pronouns/Gender Identifiers

She/Her/Hers

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Yes

If so, when and how long have you been in voice training?

June 2025-January 2026

What are your goals for gender presentation in your voice?

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

.....

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

.....

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 Add file

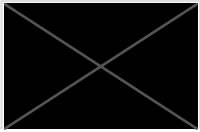
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Name (the one you would like me to use to address you in the class)



Participant E

Pronouns/Gender Identifiers

She/they

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Yes, lessons & theater experience

If so, when and how long have you been in voice training?

2 years

What are your goals for gender presentation in your voice?

I would like to be able to pass as a woman in speech, but my goals for singing are more fluid

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

Not that I can think of

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

<https://open.spotify.com/track/4zQuwW24dweWcaX0fEJkP2?si=hw-8E47GQN-OQOWLJIA1Ag>

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 You Know I'm No...

 Add file

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Masterclass Participant Form

Please fill this out by March 25th so I can adequately prepare to work with you in the masterclass.

Name (the one you would like me to use to address you in the class)



Participant B

Pronouns/Gender Identifiers

He/They

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

lessons in high school, college

If so, when and how long have you been in voice training?

4 years

What are your goals for gender presentation in your voice?

To sound more androgynous

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

none

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

<https://www.youtube.com/watch?v=MHQls0Yonws>

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 Madonna - Borde...

 Add file

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Name (the one you would like me to use to address you in the class)

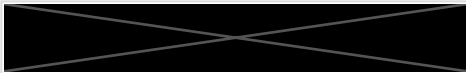


Participant D

Pronouns/Gender Identifiers

she/her

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Singing and speech lessons, theatre, all of the above

If so, when and how long have you been in voice training?

I've studied the voice my entire life. But only through the lens of transitioning for a year.

What are your goals for gender presentation in your voice?

Bright and lilting. Stereotypically feminine.

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

Nope :)

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

<https://musescore.com/user/28231516/scores/5022680>

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 say-the-word - Ell...

 Add file

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Name (the one you would like me to use to address you in the class)

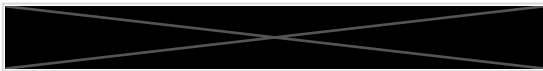


Participant C

Pronouns/Gender Identifiers

She/Her/Hers

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Yes

If so, when and how long have you been in voice training?

5 months

What are your goals for gender presentation in your voice?

Less of a whisper in my 4th and 5th octave

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

.....

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

The Light We cast(measure 1-4)

.....

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 IMG_5911 - Adria...

 Add file

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Masterclass Participant Form

Please fill this out by March 25th so I can adequately prepare to work with you in the masterclass.

Name (the one you would like me to use to address you in the class)

Song name:

In Circles Holding Absence

Participant A

Pronouns/Gender Identifiers

All/ He/She/They

Email or best way to contact you to confirm your song selection and any other details



Any voice training? (lessons, choir or theater experience etc.)

Answered

If so, when and how long have you been in voice training?

Answered

What are your goals for gender presentation in your voice?

Answered

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

Answered

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

<https://youtu.be/MqiasiqEgPY?si=0iGlzOwm6jtmM8JR>

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 Add file

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Please fill this out by March 25th so I can adequately prepare to work with you in the masterclass.

Name (the one you would like me to use to address you in the class)

ezra

Pronouns/Gender Identifiers

he/they

Email or best way to contact you to confirm your song selection and any other details

phone

Any voice training? (lessons, choir or theater experience etc.)

lessons

If so, when and how long have you been in voice training?

high school to college

What are your goals for gender presentation in your voice?

to sound more androgynous/feminine

Anything you would like me to be cognizant of and aware of while working with you? (Learning support needs, triggers, etc)

.....

What is the song you want to work on? (Please add a link to indicate the version of the song you'd like me to follow, especially if you're basing your performance off of a cover)

https://drive.google.com/file/d/1Su_Ht3yau27Hm-YtURr6h0D6UPJ7UCsa/view?usp=sharing

Please upload sheet music or backing track/lyrics **in the key you want to sing the song in.** If you cannot find sheet music in that key, please denote what key/starting pitch you will be using so I can transpose it for you.

 chrome checkere...

 Add file

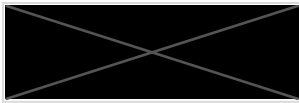
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Entrance Survey

Please fill out this survey before the class on March 28th at 1:15pm

Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Participant F

Pronouns / gender identifiers

He/him

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

☒ Yes

☐ No

☐ Maybe, not formally diagnosed

☐ Other:

How do you learn best (select all that apply)

- ☒ Visual Learner (watching, visualizing)
- ☒ Auditory Learner (listening, hearing)
- ☒ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☐	☒	☐	☐	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☒	☐	☐	very familiar

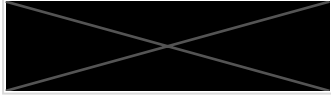
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Entrance Survey

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Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Participant A

Pronouns / gender identifiers

Any/All

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

- ☒ Yes
- ☐ No
- ☐ Maybe, not formally diagnosed
- ☐ Other: _____

How do you learn best (select all that apply)

- ☒ Visual Learner (watching, visualizing)
- ☒ Auditory Learner (listening, hearing)
- ☒ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☒	☐	☐	☐	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☒	☐	☐	☐	very familiar

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Entrance Survey

Please fill out this survey before the class on March 28th at 1:15pm

Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Participant C

Pronouns / gender identifiers

She/Her/Hers

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

- ☐ Yes
- ☒ No
- ☐ Maybe, not formally diagnosed
- ☐ Other:

How do you learn best (select all that apply)

- ☒ Visual Learner (watching, visualizing)
- ☒ Auditory Learner (listening, hearing)
- ☒ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☐	☐	☒	☐	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☐	☒	☐	very familiar

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Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Participant E

Pronouns / gender identifiers

She/they

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

- ☒ Yes
- ☐ No
- ☐ Maybe, not formally diagnosed
- ☐ Other:

How do you learn best (select all that apply)

- ☒ Visual Learner (watching, visualizing)
- ☐ Auditory Learner (listening, hearing)
- ☐ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☐	☐	☒	☐	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☒	☐	☐	very familiar

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Entrance Survey

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Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Participant B

Pronouns / gender identifiers

He/they

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

- ☐ Yes
- ☐ No
- ☒ Maybe, not formally diagnosed
- ☐ Other:

How do you learn best (select all that apply)

- ☐ Visual Learner (watching, visualizing)
- ☒ Auditory Learner (listening, hearing)
- ☒ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☐	☐	☐	☒	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☐	☒	☐	very familiar

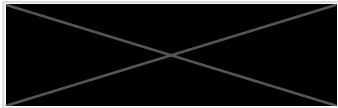
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Participant D

Pronouns / gender identifiers

she/her

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

- ☒ Yes
- ☐ No
- ☐ Maybe, not formally diagnosed
- ☐ Other: _____

How do you learn best (select all that apply)

- ☒ Visual Learner (watching, visualizing)
- ☒ Auditory Learner (listening, hearing)
- ☒ Kinesthetic Learner (tactile, touch)
- ☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☐	☐	☐	☒	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☐	☒	☐	very familiar

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Entrance Survey

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Name (you may use a pseudonym to remain anonymous, but please make sure to use the same one for your exit survey)



Observer 1

Pronouns / gender identifiers

They/them

Any neurodivergence or sensory processing issues (such as ADHD, autism etc.)

☐ Yes

☒ No

☐ Maybe, not formally diagnosed

☐ Other:

How do you learn best (select all that apply)

☒ Visual Learner (watching, visualizing)

☒ Auditory Learner (listening, hearing)

☐ Kinesthetic Learner (tactile, touch)

☐ Other

If other, feel free to elaborate

.....

Current Understanding of Formants

	1	2	3	4	5	
not familiar at all	☒	☐	☐	☐	☐	very familiar

Current Understanding of Vowel Modification

	1	2	3	4	5	
Not familiar at all	☐	☐	☒	☐	☐	very familiar

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Exit Survey

Please fill out this form ideally as soon as the class concludes but no later than April 30th

Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Participant B

What is your understanding of formant tuning now after the class?

	1	2	3	4	5	
Still not very familiar	☐	☐	☐	☐	☒	very familiar

What is your understanding of vowel modification now after the class?

	1	2	3	4	5	
Still not very familiar	☐	☐	☐	☐	☒	very familiar

Do you feel confident in applying these concepts to affirm your gender presentation

	1	2	3	4	5	
No, I don't feel confident in application	☐	☐	☐	☐	☒	Yes, I can apply them confidently

What portion of class was most effective for you?

- ☐ Introduction using accents
- ☐ Visual Charts
- ☒ Listening to various genres and artists
- ☐ Call and response / mimicking
- ☐ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

Hearing the different versions of "Borderline" was very eye opening for my own artistry knowing that i can alter the way I sing my own tunes

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

Singing on "nyah" and then singing the lyrics in that space

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Exit Survey

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Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Observer 1

What is your understanding of formant tuning now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

What is your understanding of vowel modification now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

Do you feel confident in applying these concepts to affirm your gender presentation

No, I don't feel confident in application 1 2 3 4 5 Yes, I can apply them confidently

☐ ☐ ☐ ☒ ☐

What portion of class was most effective for you?

- ☐ Introduction using accents
- ☐ Visual Charts
- ☐ Listening to various genres and artists
- ☐ Call and response / mimicking
- ☒ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

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Exit Survey

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Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Participant C

What is your understanding of formant tuning now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

What is your understanding of vowel modification now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

Do you feel confident in applying these concepts to affirm your gender presentation

No, I don't feel confident in application 1 2 3 4 5 Yes, I can apply them confidently

☐ ☐ ☐ ☐ ☒

What portion of class was most effective for you?

- ☐ Introduction using accents
- ☐ Visual Charts
- ☒ Listening to various genres and artists
- ☐ Call and response / mimicking
- ☐ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

.....

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

Using hand gestures to loosen my jaw and allow the space necessary for formant tuning

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Exit Survey

Please fill out this form ideally as soon as the class concludes but no later than April 30th

Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Participant A

What is your understanding of formant tuning now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☒ ☐ ☐

What is your understanding of vowel modification now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

Do you feel confident in applying these concepts to affirm your gender presentation

No, I don't feel confident in application 1 2 3 4 5 Yes, I can apply them confidently

☐ ☐ ☐ ☒ ☐

What portion of class was most effective for you?

- ☐ Introduction using accents
- ☐ Visual Charts
- ☒ Listening to various genres and artists
- ☐ Call and response / mimicking
- ☐ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

Splendid work as always! It was the first time singing in front of strangers and I didn't feel as afraid as I thought I would. The ordeal could only be made better with an additional hour.

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

I felt the tonal shifts from allowing my tongue to "take up space". I'm now going to be more cognizant of where I place my tongue whilst singing because I have a history of allowing my tongue to pull to the back of my mouth.

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Exit Survey

Please fill out this form ideally as soon as the class concludes but no later than April 30th

Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Participant F

What is your understanding of formant tuning now after the class?

	1	2	3	4	5	
Still not very familiar	☐	☐	☐	☒	☐	very familiar

What is your understanding of vowel modification now after the class?

	1	2	3	4	5	
Still not very familiar	☐	☐	☐	☒	☐	very familiar

Do you feel confident in applying these concepts to affirm your gender presentation

	1	2	3	4	5	
No, I don't feel confident in application	☐	☐	☒	☐	☐	Yes, I can apply them confidently

What portion of class was most effective for you?

- ☐ Introduction using accents
- ☐ Visual Charts
- ☐ Listening to various genres and artists
- ☒ Call and response / mimicking
- ☐ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

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Exit Survey

Please fill out this form ideally as soon as the class concludes but no later than April 30th

Name (if you used a pseudonym to remain anonymous in the entrance survey please use the same one here)



Participant E

What is your understanding of formant tuning now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☒ ☐

What is your understanding of vowel modification now after the class?

Still not very familiar 1 2 3 4 5 very familiar

☐ ☐ ☐ ☐ ☒

Do you feel confident in applying these concepts to affirm your gender presentation

No, I don't feel confident in application 1 2 3 4 5 Yes, I can apply them confidently

☐ ☐ ☐ ☒ ☐

What portion of class was most effective for you?

- ☐ Introduction using accents
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- ☒ Call and response / mimicking
- ☐ Identifying sympathetic resonance

Feel free to add any insights, thoughts, and feedback

.....

Masterclass Participants ONLY: What was most effective in your experience applying the concepts in real time?

I honestly don't remember very clearly, but I think it was along the lines of reminders about physicality (avoiding tension) and intention (like, the emotional posture I was singing from)

.....

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[00:00:00] SPEAKER_00: So when I moved here, I just had started my cross training journey from singing more classical stuff, which I had studied in undergrad, and I was trying to sing more contemporary stuff. And I was recognizing a lot of my vowels had to shift. I needed to bring a lot of the darker vowels that I needed for that chiaroscuro type of singing forward.

[00:00:27] SPEAKER_00: So I was on that journey of navigating like how do I make my vowels not so dark? So I was playing around with that a lot. So when I moved here, I was thinking a lot about what can I do to be a better not classical singer? Because I sound okay singing classical stuff, but when I'm not singing classical stuff, it doesn't sound great like wine. So I wrote my first paper on different vowels with cross-training between genres and I will show that we'll dive into that in a bit as well. So then as I started to navigate, all right well what do these different vowels sound like? What do these different genres, what vowels are associated with these different genres? And as I was playing

[00:01:09] SPEAKER_00: with that, I was learning a lot about resonance and formant tuning. And then I was like, huh, as I was kind of questioning my gender identity, I wonder what this also has to do with gender presentation in the voice. So I went down a whole rabbit hole and did like three other whole papers on that. And I found that there's actually a lot of correlation with how format tuning impacts a gender presentation within the voice or gender perception. So while we might not always be able to control how people necessarily perceive us because they have all of their biases and they have all of their memories and experiences that inform their thoughts and perception,

[00:01:53] SPEAKER_00: we can use tools that present, that allow our, that empower us to let our voice present the way that we feel comfortable with depending on what the setting is. And it doesn't have to be, "Oh, I want to sound more femme, so I always have to do this." It's not that rigid. The nice thing about it is, is that we can be like, "Oh, for this song, I want a brighter resonance because I want to play this character," or "I want to lean more into a darker resonance. I want to get more of that like lowered fourth formant. I mean, sometimes it's constant negotiation. And sometimes we have a certain vowel consonant combination in a specific note coming from a specific note that's going to a specific note

[00:02:37] SPEAKER_00: that will change how we approach resonance and formatuning and all of that good stuff. So yeah.

[00:02:47] SPEAKER_00: So the, I created this lesson plan that I will go through with you all and then we will test it out in the master class. So that's kind of how this is going to run. And the learning objectives are the ability to modify vowels to alter the formant values. I know that we were talking before about how when there are some sorts of like AI programs now, that you can speak or sing into it and it tells you the different formant values of your voice and everything that's like oh you are presenting us more this or more that. Do they always work?

[00:03:31] SPEAKER_00: I don't know. There's one paper that I was using a lot of research that said um biovisual feedback is a great way um so that way you have some sort of visual type of,

like, just like something to denote, like this is where you are and where you can lean in more to. But I know we were saying in rehearsal last week that, you know, sometimes it's not great for singing. It might be okay for speaking, but when it comes to singing, always having that constant feedback as you're doing it might not always be the best way. So my thesis is based upon

[00:04:12] SPEAKER_00: what are the best pedagogical methods to teach formant tuning? What's most effective for you all? So thank you all for being here and letting me know what's most effective for you all. So we're going to, especially to, I know I've told some of you, another reason why I kind of dealt into this topic was I realized I like struggled in diction, all of undergrad. Like I had to take eight semesters of it. It was like an absolute nightmare. And you know, the thing with the vowel cone and like the consonant charts and all of that. And the IPA was just like a nightmare. I was like, I wanna be drinking an IPA right now. I do not wanna be studying this. [laughter]

[00:04:58] SPEAKER_00: And the reason why I realized this, even like my teacher pulled me aside and was like, do you like I'm learning disability? Like, do you need disability services?" And I was like, "I don't know. I've never had to take speech." Like, my German teacher was like, "Yeh, if you were adopted at like five months old, like, you know, five, six months old, you shouldn't have an issue then." But I was like, "I, I, there's something that's not clicking. And I learned throughout teachers and therapists and whatnot that when I was adopted, it was right when my phonetic processing became a little more concrete at the age of six months. And then when I was plucked from Korea and brought here to the United States,

[00:05:39] SPEAKER_00: and ya know, Korean is much different than Northern New Jersey, Italian English that my parents are very Italian Americans. So you know, the phonetic characteristics let's just say, it was completely wildly different. So I really struggled to be able to tell different vowel sounds apart. Even still, sometimes if people have accents that I'm not familiar with, it's something that I really have. I need like a lot of visual cues. Like now I'm working with a new

[00:06:15] SPEAKER_00: therapist who's based in London. I have no idea what he's saying half the time at all. I have to put the closed captions on Zoom as I'm reading and listening and I'm like Yes, I'm trying. [LAUGHTER] So-- and he's lovely. But yeah, it's sometimes-- it's just a very interesting thing to see how I was not able to hear all of these different vowel sounds. But I realized as I was on my cross-training journey that I was only able to do it by feeling. I was only able to do it with kinesthetic ways since a lot of the oral processing

[00:07:00] SPEAKER_00: was just not clicking initially for me. But now that I've found more of a kinesthetic way of shaping vowels, recognizing, oh, this is what my tongue is doing. Oh, this is what my lips are doing. Oh, when I do this, it actually does this with my pharynx, does this with my larynx. And realizing that has been a game changer for me. And I realized, oh, there's just so many different sensory processing things. It is not just visual, because I would see the phoneme, but it didn't click until I was able to apply it by feeling. And I'm a visual learner too. So I took different sensory learning pedagogical methods

[00:07:44] SPEAKER_00: and put them into this lesson plan that we're gonna go through. And you can all tell me what works for you all. So I know that we were... Let me see. Yeah, so we can just see what works for everyone, but thank you all so much for being here and participating in my research. I saw that you all filled out the forms and if at any point you're just like, "Nah, I don't want to do this, just let me know." And you can totally back out at no penalty to you.

[00:08:21] SPEAKER_00: So, and also there are rice crispy treats. So I did say there's no compensation, but feel free to take a rice crispy treat. So yeah, and we're just gonna be able to apply that in the masterclass and watch each other. But if you all feel comfortable, I know we're a small group, like introducing ourselves to each other just so then that way, like name, pronouns, all of that good stuff, is that okay with you all? Yeah, sure. Okay. _(names redacted)_____

[00:09:06] SPEAKER_00: Cool. Amazing. So, how many of you have, I know, I've talked about Formants with some of you, I haven't with others. Where are we feeling like with Formant tuning vowel modification? I don't know.

Observer 1 That word is very unfamiliar to me.

SPEAKER_00 Formants?

Yeah. Formants.

SPEAKER_00 Okay. So Formants essentially, okay, we'll get to that actually in like a little bit, but so very new, new pretty new you yeah yeah yeah like we kind of

[00:09:39] Participant D : laughed about it I've watched a lot of videos on formants, I don't know if I'll admit, but I haven't actually done much practicing with it, because every time I start to, I just like give up.

[00:09:52] SPEAKER_00: Yeah, it's very interesting. Hi, how are you? It's good to see you. Yes. Here. Yes, welcome here. We can pull up an extra chair.

[00:10:05] Hi, hi, hi. Cool.

[00:10:10] SPEAKER_02: Oh, oh, oh, come here. Thank you all for being here. Cool. I've just been yapping, so you didn't miss anything.

Participant A: I'm so glad because we were waiting out in the hallway for like 30 minutes. Oh my gosh, why? Yeah, because there was like a lady in an Indian photo shoot in here before, and I was like, oh shit.

Oh, they were able to photo shoot? See you last, and then I see. Yeah, yeah, yeah. I'm just sitting down-- No, thank you. Oh my gosh, well, welcome back. Thank you for being here. Would you like to introduce yourselves to the group?

Participant A: Oh, hello group. My name is _____. I use all the pronouns. Feel free to use whatever you want. You can't hurt me. I know Jae through singing lessons. She's amazing.

[00:10:55] Participant A: Yeah? I don't know what y'all said, but that's what I said. Cool. And this is my partner, _____. Bye! Here for-- Missy.

[00:11:00] SPEAKER_00: Well, thank you for being here. Cool. I'm so excited. Let's try, let me see. Yeah, so I was just talking about my thesis, all of this good stuff. Thank you for participating in the research. There is compensation. There are rice-crispy treats. I'm sorry. But yes, thank you so much for all of you here. So I'm just gonna like let's I know I was talking about my British therapist

[00:11:39] SPEAKER_00: before and I can't understand anything. But let's try and say, "Oh, hello. How's it going?" In a taller British accent. Let's just try that.

Class: Hello.

SPEAKER_00 Right. Do we feel how that might be different than how we speak initially? Like how we would say, "Oh, hi. How's it going? What feels different?

Very far forward.

SPEAKER_00 Yeah, yeah, absolutely. Any other observations?

Participant C: The jaw drops. There's more space there.

[00:12:14] Participant A: It feels like there's a bubble in the back of the head.

[00:12:16] SPEAKER_00: Yeah, yeah, yeah. That's like soft palate being raised and more pharyngeal space. Any other ideas? Observations? Anything else that you notice? Oh yeah, yeah that's because when we round here there's more for rental space. Very good.

[00:12:39] SPEAKER_00: I have a really hard time speaking in an Australian accent. Does someone want to say speaking in an Australian accent. Does someone want to say, "Hi mate, how's it going?"

Participant: I wasn't that bad.

[00:12:48] SPEAKER_00: It was really not that bad? Okay.

[00:12:54] SPEAKER_00: Do you want to try? I might. I might.

Participant F: It seems to be more visibly like more forward

Yeah, yeah, exactly more forward. Any other observations? Yeah, wider. Right? Yeah. Any other observations? I feel like the back of my throat is... finished. Yeah, it's a little more...

Observer 1: I feel like the back of my throat is diminished.

Yeah, it's a little more... Yeah, right. And what did you also see too, like externally, like, or feel externally on your face?

Class: Spread. Spread. Yeah, yeah, yeah.

[00:13:35] SPEAKER_00: I was getting on both of you earlier about spreading. So that's the beautiful thing about different ways of speaking. None of them are good or bad. There are lots of people who have lots of preconceived notions about accents and whatnot. However, there's no moral connotation to anything with the voice. It's just really what's more effective than what's going to get us to where we want to be. And we're just noticing all of these different shapes, all of these different feelings. So the thing is, is that lots of different accents have different resonance strategies, and then therefore they have different formant values. So tapping into

[00:14:17] SPEAKER_00: something that we might be a little more familiar with, like, oh, I can speak in a certain accent. It might be a great way to use as a framework so that we can start shaping our resonance in different ways. And that's the nice thing too, is we have all of these options. now. So great work on noticing how we're feeling. That's really important. So I told you all about my nightmare in Diction Class and they, I'm trying to see is what would be easier for you all if I just come around and maybe just show you all. So have you all seen this

[00:15:00] SPEAKER_00: chart before? Actually, I will email you all the graphics and whatnot. I have it with the IPA symbols, but I like this one better, 'cause it's just kind of a little friendlier. We have different words, so then that way you can say the word, and then we know what it sounds like, rather than having an upside down E, and then being like, "What is this?" And so as we can see here, we have E. Can you all kind of see this? Yeah. OK.

[00:15:45] SPEAKER_00: [INAUDIBLE] Sorry. So we have E is the most front vowel, and it's high. So let's say E. You see how that's a little more common here? Let's go actually to the opposite end. Let's go back. Hi, _____, hi. -

Participant F: Oh, we actually do need another chair. -

SPEAKER_00: There's perfect. - Amazing.

[00:16:09] SPEAKER_00: Cool, thank you. So thank to see you. So we are talking and yapping about, have you seen and been traumatized by this vowel cone? Now we're going to go and

charge things? Not yet. Okay, cool. So vowels. Vowels sit in different places in the map. So we have "d" and we're saying "d." So the axis of this is that we have vowels that are like high to low and then we have front to back. We also have ah, eh, and e. Those are all tongue vowels. So those are all with the height of the tongue. So e being highest, the tongue side is highest. So let's just say e. E. Good. And then let's go to the opposite end of the spectrum. Off.

[00:16:54] SPEAKER_00: Good. You see how the tongue drops. Yeah, cool. So [i] [a]. Let's actually now go from [i] to [a] .

Class: [i] [a]

SPEAKER_00: Yeah, exactly. So when we have this E to A, it's still forward, right? Exactly. Here, I'm going to see if I can just pull this up on my laptop so that way it's easier for you all to see

[00:17:24] SPEAKER_00: Do you have another chair? Hi! No worries thanks so much for being here - No worries, thanks so much for being here. (indistinct chatter) Amazing, I'm so glad that we have so many people here now. And I did make sure there are enough Rice Krispie treats for all of us. (laughing) Okay.

[00:17:50] SPEAKER_00: Sorry, they were supposed to have a TV in here that I was gonna hook my laptop up to, and obviously that did not happen.

[00:17:57] Participant F: That would have been cool.

[00:17:58] SPEAKER_00: Yeah, that would have been cool, but do we get what we want? No. But you know what, we make it work. Is this better? Yes. Yeah, it's lovely. Amazing. So, we're talking about vowels. We are talking about... What are we talking about vowels. We are talking about... Where are we talking about? Oh yes, we're using a visual aid to see how vowels are formed in the mouth. So, we also have... we have high to low vowels, right, with the height of the tongue. And we also have front to back. So, when we have... Let's just actually do this. We'll say "ah". [class responds] "ah", "oh", [class responds]"oh", "ooh",[class responds] "ooh". Exactly. So what changes?

[00:18:41] SPEAKER_00: So lips. Yes, exactly. We have more open lips and we have more closed lips here. So then we have "ooh", " front vowels like [i] and [E] they're more forward. Bu uh oh tends to be more back. So this is kind of like an axis of like where all of the different vowels sit in our mouth. Does that make sense? Cool. Also too if anyone is just like super confused or lost,

[00:19:17] SPEAKER_00: please like let me know and like I can explain it. That's what I'm here for. So when we noticed then when we had "a", "e", "e", what did we notice? Aside from the tongue moving on me.

[00:19:38] SPEAKER_00: Yeah, good stuff. You can get a little bit wider, especially more for E. Yeah, ah and e. It's the tongue too.

[00:19:47] SPEAKER_00: It's like a lot of the tongue. We can also have the palate raised. We should always have the palate somewhat raised when we're singing. What do you think?

Participant C: The Jaw is dropping?

[00:19:57] SPEAKER_00: Is dropping? Ah and e. Yeah, for ah, it tends to just be a little more relaxed than "e" since the tongue moves up. Sometimes we want to like list the job, especially in speech, like in natural speech that is the natural progression of things. When we apply that to singing, does that always apply? It depends on Yes, it definitely makes sense. Oh wait, it went away. Yeah, so now where did you feel these sensations when you had ah, oh, and voo?

[00:20:36] Participant C: A little more roundness here.

[00:20:40] SPEAKER_00: Yeah, anything else?

[00:20:51] Participant F: Yeah, they're supposed like a little further back there.

SPEAKER_00 Excellent. Now, especially too, sometimes when we're looking also for backspace, I know you're talking about the palette. And I know sometimes I'm like, all, All right, we have to raise the soft palate." There's this like nice little trick that, you know, how sometimes when you pinch your nose, it sounds nasally. Apparently I'm from New Jersey, so I talk at my nose. [laughter] That's what everyone says. But yes, I actually do talk at my nose, I realize. But a nice thing is, is if you pinch your nose and you speak behind it. So it won't work for nasal consonants, but it will work for making sure that your vowels don't sit in a more nasal place. So let's now, I know some of you all have been singing, have you all been singing today?

[00:21:36] SPEAKER_00: Yeah, some of you all not warmed up. All right, let's warm up. Cool, so what we're gonna do, feel free to stand up, feel free to not stand up, feel free to do whatever you want. So what we're going to do is we're going to start with this exercise. We'll start here so it can go, V-E-O-V-O. And what I want you to do is make sure that E for the V, give a good V, you'll really feel the engagement of the diaphragm, any fricative consonants, lovely. But then when we have the E, you see how high the tone is for the E? When you go to the other vowels, try and keep the tone a little more in that E space.

[00:22:21] SPEAKER_00: V, A, and see how that changes little more in that E space. ♪ Vi e ♪
And see how that changes and shifts all the other vowels. Let's try that one and two.

[00:22:29] SPEAKER_03: ♪ Vi e vi e ♪

[00:22:39] SPEAKER_03: ♪ Vi e ♪ ♪ Vi e mi odia ♪ ♪ Mi e mi odia ♪

[00:22:50] SPEAKER_03: ♪ Mi e mi odia ♪

[00:22:57] SPEAKER_03: ♪ Mi e mi odia ♪ ♪ Vi e vi o vi a ♪

[00:23:09] SPEAKER_03: ♪ Vi e vi o vi a ♪ ♪ Mi eg mi oh mi ah ♪

[00:23:18] SPEAKER_03: ♪ Mi eg mi oh mi ah ♪

[00:23:25] SPEAKER_00: - How did you all feel when you went from the he to another vowel?

[00:23:33] Participant C: - I felt very like connected, like about consistent with the tone and stuff. Usually like when I'm practicing like connected, like about consistent with the tone and stuff. Usually like when I'm practicing like the sheet music stuff, my tone is kind of all over the place and it feels more disconnected, but this is more like fluent.

SPEAKER_00: Absolutely. Yeah, especially to like when you put them one after the other and I've made this exercise set up specifically for that. What else did you feel? Did you feel like the second vowel? What did you feel like about the quality of the second vowels?

Participant A - Clear. - Clear.

Participant C - Brighter. - Brighter. That makes a lot of sense, putting the E before that. Did any of you feel like your tongue wanted to make a bigger movement than necessary?

Class- Yes.

[00:24:16] SPEAKER_00: (laughing) - That seems to be the theme for today is tongue tension. We love it. So the nice thing is, this is something that I've also been working on with myself, is that when we are singing and especially sustaining, we need to open the jaw. We need to make sure that the jaw is not clenched. Because the jaw being clenched, it kind of like sends a signal back to our brain like we need to silence ourselves. And also too, just like it's a thing of anxiety, a habit of anxiety. But also too, what happens is as it closes our pharyngeal space, when we clench our jaw, and then it takes away from a lot of like laryngeal flexibility as well. So it's really

[00:24:59] SPEAKER_00: important to make sure that we release the jaw. We don't need to unhinge it like we're taking a big bite of the sandwich like we don't need to do that, but we want to make sure there's room for the vowel to like live in and then with that room the tongue can take up that space and then when the tongue takes up that space it will get when the tongue takes up that space, it will get that brightness. It will get that [i]-like quality. It will help raise the second formant, which is often associated with presenting as more feminine. So it's like a tool to make sure that we have that framework of open jaw, which we don't necessarily need to when we're just speaking, right? We're not sustaining, but when we're sustaining on various pitches, we need to make sure that we're sustaining, we don't sustain on a constant, right?

[00:25:44] SPEAKER_00: We sustain on vowels. So we need to make sure there's a little space for the vowel and then the tongue will help shape the brightness. All right, now we're gonna do, we're gonna switch gears. We're gonna do this one. We're gonna start this one down. So we'll go down for this. So it goes, ♪ How, how, how ♪ ♪ No, wrong, come ♪ And now we're gonna round a little bit more. Before we were doing more of that E, brighter tongue type of stuff. Now we're just gonna get some things to be round. And I know I tell some of you this, like to not like lean into the W, but now like let's lean into the ow, ow.

[00:26:19] SPEAKER_00: Yeah, get the roundness there.

Class: ♪ How now, Brown Cow ♪ ♪ How now, Brown Cow ♪ ♪ How now, Brown Cow ♪

[00:27:04] How did that feel? ♪ Oh no, no, no, no ♪

[00:27:07] SPEAKER_00: How did that feel?

[00:27:11] SPEAKER_00: You can all sit down while you think about it

Observer 1: It felt more natural than the E because I wasn't, my larynx wasn't doing anything it wasn't supposed to be doing. Like it was very, there was a lot of Ease in it.

Yeah, yeah. And that's the nice thing about rounding. If you find that you're a little tense, open the jaw and round a little. It gives a little more pharyngeal space.

Participant C - I had to keep myself from yawning (laughing) -

SPEAKER_00: : Yeah, like we can just see the cows yawning. Like "how now brown cow" just dozing off? Forget about kind of sheep, we're gonna be kind of cows any other observations of how that felt?

Participant D: there's a lot less like tongue tension than that doing that yeah yeah definitely

[00:27:55] SPEAKER_00: yeah yeah yeah and that's open.

Observer 2: I feel like I have to pay attention to like keep my tongue from like going up and like put like effort into the rounding. And I also was like, "Oh, it's cool how low I'm able to sing right now."

[00:28:13] SPEAKER_00: Yeah, it's really nice because when we realize when we round, what happens is like the more we close the lips here, it actually widens the pharyngeal space here. And when there's more space, and this will go right into performance, so we're gonna talk about that. When there's more space, like have any of you heard like a video of like a scope, like anyone doing like a vocal scope? And it doesn't really sound like human voice, right? It sounds

like a really bad kazoo. It's kind of creepy. It's like, whoa. And the reason why for that is, is what makes our voice sound like our voice is that vibration of the vocal folds of the

[00:28:51] SPEAKER_00: vocal cords echoing in our vocal tract. So when we have those echoing in our vocal tract, what that does is that's what shapes all of, that's what makes our voice sound completely unique. That's what makes our voice sound like our voice. And so depending on the size, the shape and whatnot of our vocal tract, so we can shape our vocal tract with what we do here oftentimes. So that's why our articulation, how we shape our vowels here, it also impacts like here in the vocal tract as well because this is all

[00:29:30] SPEAKER_00: the vocal tract but it also shapes down here as well. And that's like a really cool thing. So when we have four minutes The definition of formants is a peak of acoustic energy in the sound spectrum of a speech sound or any kind of vocal sound, particularly vowels. So these are the resonant frequencies of the vocal tract. So that includes the throat, the mouth, the nasal cavities that are enhanced would shape the sound and offer distinction between separate vowels.

[00:30:13] SPEAKER_00: Do I have the app on my phone? Oh I do. So I'm going to show you all something pretty cool. I'm going to, I know that you may not be able to all see this, so I'll come around, but when I do like "ee" see all those formant (for that) vowel over there those

[00:30:35] SPEAKER_00: you see how the piece of energy change even though I'm singing on the same pitch all of these other frequencies change there other frequencies change there. [singing] That's the fundamental frequency.

Participant C: Is this anything that's an overtone series? Kind of, yeah. So overtones have to do with pitch itself, but yes, it's yes. I've could go on for days about that now. So if I try this, if you see-- [HUMMING]

[00:31:14] SPEAKER_00: And it'll change too, depending on who does this. Does anyone want to try? Because your voice will sound different. So all of this will sound different, depending on who's doing it. So, yeah, oh, it's not just the fundamental frequency, right? It's the fundamental frequency is pitch. And then when we have all of these other values here, that changes. And that's why all of our voices sound different. Does anyone want to try it? - We'll try it. - All right.

[00:31:48]Participant B : ♪ [i E a o u] ♪

[00:31:54] Participant F: - Oh, wow, it looks so different.

SPEAKER_00:- Yeah, yeah, it does look different. Yeah, and that's like why your voice sounds different than my voice. And that's why all of our voices sound different.

Participant F: Wow.

Speaker 00: Isn't that cool, guys? Wow. Who would have thought?

Participant F: What's the name of that app?

SPEAKER_00: Oh, so this is also a metronome in it, and it's also a Pitch pipe app. It's called Tonal Energy. Last time I checked, it was \$6, but the best \$6 I've ever spent in my life. It's also really good for microtonal singing, if any of you all do that. It's also really good for microtonal singing, if any of you all do that. I don't do that anymore, it's really hard. But yes, so you can check it out. I find it just be interesting to be like,

[00:32:37] SPEAKER_00: oh, I mean, those of you who mix music or produce music and use like EQ and stuff, this is essentially what EQ does, like when we do different EQ bands and we boost certain formants and that's why too, it's like you want to, like when we're recording we have to not manipulate our vowels, like over manipulate our vowels because that's what EQ is for. So that's a pretty interesting thing that I found out. So also, in terms of gender perception, Fundamental frequency, technically, is the main predictor of gender perception. So that's pitch. Oh, people are like, oh, you have a higher or lower pitch voice.

[00:33:20] SPEAKER_00: But the thing is, is that the second predictor of gender in the voice is formatuning and resonance are key factors in singing and speaking. And then also in speech, there's other things that you can do, like syllabic stress, phonation patterns, quality of voice, all of that. And I couldn't go on and tell you all about my many papers that literature reviews that have compiled of, you know, this study says that, you know, people perceive you to be more femme if you know you do this, or people perceive you to be more masc or more androgynous if you do this. But in the context of singing,

[00:34:03] SPEAKER_00: it's nice that we are able to kind of draw upon all of these different like resonance strategies to present how we want to, because we might not, that might change. Or yes, we might have like a goal, like an overarching goal, but we also-- that might change. But we also-- that might change depending on what note we're singing on, depending on what vowel constant and the combination we're singing on. It oftentimes is just like a lot of give and take and negotiation, depending on how do we get the result that we want. So today, I'm not trying to be like, let's sound more like this or more like this, but it's giving you all the tools so that way you can make that choice for yourself. 'Cause that's the beautiful thing about it.

[00:34:45] SPEAKER_00: So now, let's try this. I want to, you know how before we had the,

[00:34:54] SPEAKER_00: we have this vowel, cone thing. But I want to take a look. So you know how we have like two? Let's say two.

Class: Two. Two. Yeah.

SPEAKER_00 And now let's make it more like, ew,

Class: [tju].

SPEAKER_00: You see how that changes? Yeah. So that's the thing. It's like we can modify vowels. Almost think of it like watercolors, right? You know, it's like we're painting a picture and everything. I had one client earlier, she was like, "Oh my gosh, you're with it with the metaphors today." I was like, "I don't know what to tell you." But I was using this metaphor about, imagine like it's like watercolors,

[00:35:35] SPEAKER_00: so we can take vowels and we can just kind of add like a little more brightness. We can add a little more darkness. Have you all heard of the term chiaroscuro? Brightness, darkness? - Oh, yes. - Yes, yes, yes. It's Italian for chiara meaning brightness. And scuro meaning obscured or darkness. It's also, it's used a lot in Belcanto singing,

[00:36:01] SPEAKER_00: which talks about you- want this balance of brightness and darkness within vowels. However, it's also used in painting too, I found out. I was like yeah, yeah, it's like that balance of like light and dark. So, and this is the thing too about vowel modification We don't have to have it be completely broken back here all the time We don't need it to be like really forward all the time we can figure out where we might want to add a little more of this, Give a little more of that, And I know too in rehearsal we were talking about different genres of singing. So this is how I got

[00:36:40] SPEAKER_00: into this whole big mess anyway. So classical singing, everything's back here, right, classical singing. So if I'm singing like...

[00:36:58] SPEAKER_00: ♪ Come back o summer ♪

[00:37:02] SPEAKER_00: all those vowels need to sit back there because in order for my voice to carry classically, I need to have those round and darker vowels. But if we're doing something a little more, let's say musical theory, like, from Jekyll and Hyde, ♪ I peer through windows ♪ it's a little more bright and that sits up here so we can almost think of resonance for genre being like classical tends to be a little more dark, pop tends to sit like a little more just in the middle a little more towards speech, and then theater tends to have like a little more brightness to it.

[00:37:41] SPEAKER_00: And that's like a very generalized thing. I also have more charts to show you all. And I'll just tell this to you, this is from a book called "Sing Anything." And it's like this very large chart with all of these various genres, from country to rock to jazz to R&B to like, belt to pop, choir, legit operetta, like operatic classical singing. There's a lot. But I was just like, a people pleaser and I was like, I want to do it all. But it shows the different types of like breath tone, resonance shape, degree of

[00:38:22] SPEAKER_00: nasality, vibrato, blah, blah. There's so much that goes into it. But the resonance sensations I thought was like really cool. Pharynx, the pharyngeal space, you have wide neutral constricted. The degree of laryngeal lean or the laryngeal tilt that you need and also to the resonator shape. So I thought this was like really interesting. Sometimes we can

envision pop being like more like a 'gentle little smile' so it has that brightness, it has that conversational-like speech. But at the same time, it's not going to be like opera, which is 'inside smile fish face', which

[00:39:06] SPEAKER_00: is really more round here. And then we have a lot of backspace, because we want that lofted soft palate. So I'll send this to you all so that way you can look at it. There's kind of like a lot to digest here. But this is just a whole, just at least chart of how different genres use different resonance strategies to get the point across. Because that's really all it is, it's just like getting the point across. Like classical singers don't sing in vibrato just because of the spot. They use it because they didn't have microphones. So, you know, and you don't have microphones. But that's why too, sometimes we want to push really hard for a mixed belt.

[00:39:48] SPEAKER_00: But we also have to remember, mix-belt use microphones. You don't need to necessarily have that volume. You need to have that dynamic spectrum. Taking all of these things into consideration what vowels be used for different genres of singing, and that how those can strengthen how we modify our vowelss and how we want to use them to present our voice for gender, regardless of gender, for whatever we want to use.

[00:40:24] SPEAKER_00: So, yeah, now, um,

[00:40:30] SPEAKER_00: I have just like a few videos that I want to show you and these are the songs that on, some of you all will be singing. So if you don't want me to play these videos, that's okay, just let me know. Is that okay? Okay. So,_____, I know you will be singing.

Participant F: Why me first?

[laughter from class]

SPEAKER_00: I just want to show everyone... Well no you're not going to sing first; unless you want to. But I want to show everyone a recording of the song...

[00:41:07] SPEAKER_00: This is actually really interesting, is it hope because it's been covered by so many different kind like STING did a cover of it which obviously was like a lot more popular kind of but it's a classical piece so it's interesting to see which one you play.

SPEAKER_00 I just saw the first one and I was like "oh okay, this sounds fine" but it's actually a video of someone. And I want you all to look at this singer's mouth shape.

[00:41:42] SPEAKER_00: and there's a lute in there!

[00:41:47] Participant F: This was so very important.

[00:41:56] SPEAKER_00: rap there's no spreading whatsoever even on the bright vowels. It's not spread, it's just neutral.

[00:42:04] SPEAKER_00: you see that hype on that "a" it should see what's spread.

[00:42:22] SPEAKER_00: Yeah, so everything, it's not that there aren't 'brighter vowels' it's not that there *aren't* [i] vowels. This is just those [i] vowels are modified to give a little more space, a little more height in them. Now, that's a classical thing. And what's nice about of that is we can use some of those techniques to create a larger pharyngeal space, lower the fourth formant and getting that type of like more "boom", which can be associated with more masculine types of voices.

[00:42:51] SPEAKER_00: Now,

[00:42:55] SPEAKER_00: holding absence is what you're gonna say. (murmurs) And I love this song. Cool. And I want to- where was the- Oh. Where was the point in the video. Here. So this is...

[00:43:19] SPEAKER_00: I know. What are we noticing about the vowels here?

[00:43:26] Participant C: It's very open. It's very wide .

Participant F: its open but wide

.SPEAKER_00: Yeah! Yeah So there's obviously some space there, but also too, the larynx is pretty high there because there's like a little bit of screaming in there, which is a little more closure, a little more. But that's also phonation stuff, we can get into that. I could just go on and on about how it's all influencing each other.

[00:44:10] SPEAKER_00: But you see how they're much different vowels, and it accomplishes a much different style of singing and it accomplishes a much different point but both are effective in getting their point across. So also too, now _____ is going to sing some Amy Wine House songs that I'm so excited about.

[00:44:37] [music] [music]

[00:44:45]: [music]

[00:44:53]: [music]

[00:45:01] SPEAKER_00: More nyah sound, you know?

[00:45:09] SPEAKER_00: I love that line. So you see it's all a little more nyah. And that's just something very characteristic being White House. She's like that "nya,nya,nya" type of pop singer. But I want you all to hear this live. So this is in 2006. And this is a little...

[00:45:30] SPEAKER_00: She still has that "erh"phonation . The vowels are darker.

[00:45:40] SPEAKER_03: Don't they are? No, I'm not.

[00:45:44]Participant C: So, you know, it means that if you're in a recording booth versus doing it live.

SPEAKER_00: Yes, that's what I say. You don't want to manipulate your bells too much when you're recording because this is what EQ is for. And then, you know, when you.... who here mixes? You mix. Yes. Yes. So, yeah, you can just fix that with yeah. Yeah. I mean, also just like so many settings now that you can just push a button and you can just change that about your voice. So it's nice to give your mixing engineer a blank slate right so that way if you want it to be

[00:46:26] SPEAKER_00: for the song, we can just do that. Yeah, and there's more reasons why with microphones and recording stuff, that why it's better just to just keep it a little more neutral. But it also depends on the genre of what you're trying to record too. So there's so much. There's so many good things here. But yeah.

[00:46:49] [MUSIC - "I cheated myself "] [music]

[00:47:02] SPEAKER_00: You see how it [i] starts darker, a lot more round? But that's the thing too. It's when you're doing it in one take. It's like you also, um, you're already gonna be like kind of nervous, like when you're singing live, I don't know if that ain't live now, but you know, you wanna make sure that there's like a little more space there. Let me see. There was also, okay, cool.

[00:47:29] SPEAKER_00: All right, and now, you're gonna sing some Madonna songs. So, I wanna actually show you all. So this is the studio version.

[00:47:43] SPEAKER_00: You see how, yeah? ♪ Just going to ♪ ♪ You scare me ♪ I mean, it's very 80s synth pop, right? It's like, very bright. ♪ IBorderline ♪ I mean it's very easy to pop, right? It's like very bright. You also have a very boosted second formant.

[00:48:01]: ♪ Borderline♪

[00:48:04] SPEAKER_00: You feel it, almost like that bright smile definitely boosts the second formant there.

[00:48:17] SPEAKER_00: What happens when she pages the genre of this?

[00:48:19] Um, like...

[00:48:25] SPEAKER_00: She's doing it kind of like a pop rock version.

[00:48:28] Observer 1: And older.

SPEAKER_00: Huh?

[00:48:29] SPEAKER_00: And older.

SPEAKER_00: Yes. Well, she's a little older than that.

Observer 1: That's what I mean.

[00:48:34] SPEAKER_00: Yes. See different genre a little bit, different instrumentation, but it's not as "nyeh". See it's a little more conversational, a little more pop rock. Very 90s. I don't know maybe early 2000s, this was. But it's very 90s, like, the way that Madonna is singing this. But now, let's hear her say this. When she's been older, she's 59 years old in this recording, so she lowered it a little bit. [inaudible] [music] Ah. [music] You see it's a little more kind of like, way back. [music]

[00:49:17] SPEAKER_00: And of course now, she's older, she's 59, has to lower the key a lot. [music] Yeah, you see almost now that it is sitting lower, how the resonance strategies have to change how she's approaching? - Yeah, exactly. It's not, because when you don't have that estrogen, like the folds aren't as pliable. So you just, round a little bit more.

[00:49:46] SPEAKER_00: - Yeah, so it's interesting to see different versions of the same song. but just seeing all the different takes that they do. But now we can hear, right? We can hear the different vowels, right, between those versions. We can hear the different vowels that we'll need for various types of the genre. And I can go on and analyze these till Kingdom come, but we only have like not that much time. [laughter] So, do you all get it? Yeah. Yeah. That different vowels can help for different genres, different resonance strategies. So for seeing some musical theater,

[00:50:30] SPEAKER_00: we might want to lean into a more E or A type of vowel. Singing more classical, we might want to sing a little more with the a or A type of vowel. Singing more classical, we might want to sing a little more with the A or O type of shape. And these aren't the shapes that we have to be fixed in. It's kind of like a frame. It's like a framework for the singing to live in and the vowels that we're singing to kind of live in that general framework. Does that make sense? And then too, I can also send you all of my last couple papers that show-- that just compile, essentially, all of the studies that are more of the ne-ya-ya-ya, brighter resonance tends to be associated with more femme presenting voices

[00:51:11] SPEAKER_00: and the darker, rounder sounds, that's often classical, choral adjacent, tends to be associated with a more masculine sound, just because with a wider pharyngeal space, we get more "boom", lowers the fourth form, and all of that good stuff. But we can just kind of do what works best for our voice. It's just that's what a lot of studies have shown. And that's also a cultural thing too. It's like this society at this point of our existence in this world

that we live in tends to have those associations. We might go somewhere else in the world. They might have different associations. They also might have-- they speak different languages

[00:51:54] SPEAKER_00: or different dialects that will change what they perceive voices to sound like because they have like a whole specific set of phonetic processing like that's in their head. So it's all so much that's out there, but that's the beauty of it. So.... have I lost any of you? No? Cool. All right. Now let's do some singing. Who wants to sing for me?

[00:52:18] Observer 2: Can I ask you to explain what a formant is again?

[00:52:22] SPEAKER_00: Okay. Yes. The formant. So essentially it's the acoustic energy of the echoes of your vocal tract. So it's like the vocal folds they make a bad sound that sounds like not bad. They just make the sound that sounds not like our voice in our throat. And then that sound echoes in our vocal tract. And then that pitch of the echo is what the formant is. And the thing is, is we'll continuously shape because we are constantly changing the shape of our vocal tract when we change different vowels. So this is why when

[00:53:05] SPEAKER_00: people say singing is easy and oftentimes it's a brass player who says that. I'm like, Okay, then if you want to say that singing easy, but the thing is, is that what you have to do when you are singing- Like imagine if like a euphonium was constantly changing its shape, And you have to control what shape it was, or manipulate what shape it was while you're playing different pitches- like No, you can't right? and that's literally what we are doing with our own bodies. So uh, yeah, I mean, yes. -

Participant F: And you also quickly go over what exactly you mean by like the first, second, or fourth formants ? Like just the number of formants? 'Cause I come in with like no knowledge.

[00:53:47] SPEAKER_00: - Okay, okay, so brief overview. Yes, thank you, I should have thought of that. Four months, so fundamental pitch, just like the pitch of what something is like. This is like that's the pitch. That's F zero. First formant, then we have first and second formants, which are there, second formants are, when we get that brightness for the, so when we boost the second formant, it kind of creates that bright more "nyeh" sound. Third, fourth, and fifth are what we call the singer's formants, especially for classical singing. So we focus like a lot on those, like if I'm singing something classical, like you'll

[00:54:28] SPEAKER_00: be able to see it in the app here, like if I'm singing with

[00:54:56] SPEAKER_00: ♪ Vi e ah o u ♪ It's kind of like a bigger plateau here

[00:55:02] SPEAKER_00: So those are, that's like the same as four minutes, third, fourth, and fifth. And fourth, when you go to the fourth one, it creates sort of that like, that "acoustical boom" you get with people with just larger vocal tracts. Does that make sense? Yeah, it's kind of talking. It's kind of like--

Participant F: You see the peaks!

SPEAKER_00: Yeah, exactly. Lots of different peaks. And the peaks will change depending on what vowel we're singing on or speaking on or any of that good stuff. Does that make sense? Yeah, cool. Cool. Cool. Excellent. Any other questions? You can also just like ask me after if anything comes to mind. It's not like I go away forever.

[00:55:47] SPEAKER_00: [LAUGHTER] Yeah. Yeah. You all can reach out to me. You know where to find me. You can reach out to the studio. They'll give you my email if you have any questions, Yeah, whoever has any questions. I can yap about this forever. So yeah, all right, so who wants to sing first?

[00:56:09] (Participants A and B try and see who wants to sing first)

[00:56:21] SPEAKER_00: [LAUGHTER] Would you like me to not record you, but record the video? Yeah, you know? OK, let me talk. All right, sounds good. I could not, obviously, find a-- I can't find a karaoke track for this, but can I just click to my laptop and use it along? Cool, would you like to stand up here with everyone?

[00:57:01] SPEAKER_00: I'm gonna use my computer over there.

[00:57:02] SPEAKER_00: Totally, you can put it on the music stand, or you can keep it on there whenever you have one. You can put on the same music as you like, or you can keep it on there. Whatever you have. Can we all hear this? Is everything OK? Yeah.

[00:57:12] Participant A: Cool. [MUSIC]

[01:00:11] (audience applauding)

[01:00:21] SPEAKER_00: That was beautiful. Give it up for _____ one more time. You want to work on that a little bit? Cool. You want to stand up?

Participant A: Sure. If you would like to. Yeah, cool. Yeah, that was awesome. I loved that modification because... Yeah, that's how you use that. Yeah. You're using that there. so you did a really great job of giving the space so you can get that laryngeal tilt but then keeping the tongue up but modifying instead of it being a break me the higher we go we have to modify to be more open that's just the way it is

[01:00:57] SPEAKER_00: So that was a really beautiful modification that you did automatically there. I want to take a look at. Oh, "I've been nailing on my bare bones, speaking with my eyes closed, keeping both my knuckles pressing my nose." That's intense. Yeah. Yeah, cool. I'm gonna try and see where that is. Oh, yes. Cool. I'll back it up slightly. I want, even though we're talking about things being closed here, give a little more space for the vowel because even though it is "talky", we want to make sure that

[01:01:35] SPEAKER_00: the vowel is coming through. So, uh, I've been kneeling on my bare bones." There's a lot of consonants, but almost think of, um, one together with the metaphor. Like if, you know, you take a napkin or something, or like the rice crispy treat wrapper, and you just like drop it into the trash bin, right? And it's almost like a release there. I want you to think of the jaw releasing every time you open up to a vowel. I know it goes quick.

Participant A: Sings "I've been nailing on my bare bones, speaking with my eyes closed, keeping both my knuckles pressing my nose.

SPEAKER_00: Yeah, exactly. Now, what we're going to do is let's try it slowly.

[01:02:20] SPEAKER_00: almost like you're moving through molasses, but every time you go to the vowel, release the jaw, like you're dropping the tissue. ♪ I've been ♪ Like that. ♪ I've been ♪

[01:02:33] Participant A: ♪ Me on my bare bones ♪ ♪ Speaking with my eyes closed ♪ Is that right? Yeah, that was perfect. ♪ Right there, I'm speaking with my eyes closed ♪ [Is that right? Yeah, that was perfect.] ♪ I'm speaking with my eye closed ♪ ♪ Keep me full ♪ ♪ My mouth is pressed through my nose ♪ ♪ And nothing that I ever do ♪ ♪ Will close this hole inside of me ♪ Good.

[01:02:57] SPEAKER_00: ♪ Close ♪ Yeah, don't let your tongue fall back there. So another thing with this: Like if we were seeing before, a lot of opening right, but what gets that brighter sound?

Participant A [i]

SPEAKER_00: like what type of vowel is an [i] vowel?

Participant A: Tongue

[01:03:22] SPEAKER_00: Yeah, so don't let the tongue go back, let the tongue take up the space, so drop the jaw, Let the tongue take up that space it'll give you that pharyngeal space too when you drop the jaw. It'll give you that laryngeal flexibility, especially to get that more closed phonation/closure. But also though, what it will do with the tongue, will get you that brightness. So let's take it from the... Let go back here.

[01:03:51] SPEAKER_00: [music] Yeah, try that.

[01:03:55] SPEAKER_00: Let me back up a little bit.

[01:03:58] SPEAKER_00: [MUSIC] Yeah, I've been, yeah, so just think-- I've been sitting there. Oh, right there. Yeah, try that there too. And we have a lot of closed [i] vowels there,

[01:04:14] SPEAKER_00: but just drop the jaw, let the tongue take up space.

Participant A: ♪

SPEAKER_00: Can we try this? You were singing this up the octave. Can you try that?

Participant A: That's something I work on with you, is wanting to maintain use of both my high notes and low notes so I will often try to sing high or low depending on how it feels.

[01:05:52] [music] "fill the hole inside of me" ----Me.

SPEAKER_00- Yeah. - Yeah, do you feel that? -

Participant A: Yeah, that's different. -

SPEAKER_00: So I want you to challenge you, almost like put your fingers between your teeth like that. I'll let your tongue take up space. And see what that does for you. But this is sounding great. Excellent work.

[01:06:15] SPEAKER_00: Oh cool. Excellent. Yay. (class claps)

[01:06:22] SPEAKER_00: Well yeah, space for the vowel but then we can also achieve clarity and brightness with the tongue. Let the tongue take up space. Yes?

Participant C: So I notice that like - the mouth will widen, but then snap really quickly to more narrow-- for like the chorus to the verse? So how would you navigate and then jumping to those kind of transitions?

SPEAKER_00: Like the phonation technique is different there. I could go on and on for this, but I leave 10 minutes for each person, but I will message you after that one. Yes. But yeah, there's lots of different things, but there's a lot going on in this song, obviously. It's more of a pop-punk type of "nyeh",

[01:07:05] SPEAKER_00: but then it goes to a more closed, screamy type of phonation.

Participant A- He's also British. -

SPEAKER_00: Oh, interesting, cool. cool well he has a really bright vowel for a British person. Very cool. But you see this is what the thing is. We have a default we can change certain things depending on the genre of what we're singing so very cool. Who wants to go next?

[01:07:42] SPEAKER_00: to go next? Okay, you can do that. Okay, cool. Do you want to do it with the track or do you want to do it with the, I can also play it for you, which might be easier just to stop and go.

Participant B: Oh, sure. Cool. I also want to say five minutes long.

SPEAKER_00: Yeah, let's go. Yeah, let's give you a bar. I'll give you a couple bars to start.

[01:07:56] SPEAKER_00: So, you wanted it in D, right? Yeah. Yeah, so.

[01:08:04] SPEAKER_00: Sorry. Oh gosh.

[01:08:32] SPEAKER_03: [Music] ♪ [01:09:35] Over the Borderline

[01:09:38] SPEAKER_00: Whoa! You want to keep going? How do you feel? [applause] Cool! Yes, this repeats a lot. This is sounding great! Oh my gosh! Yeah, that that high stuff, it's like it's super super great. I love that now, sorry um, Where..... let's go back

[01:09:59] SPEAKER_00: Let's just go... I want you to try the "something in the way you love me won't let me be" just try that

[01:10:05] Participant B: something in the way you love me won't let me be

[01:10:14] SPEAKER_00: Good, watch yourself in the mirror when you do that

[01:10:24] SPEAKER_00: Wow what did you notice?

[01:10:28] Participant B: It's kind of tall I guess... It's like both, that it feels like taller but it also feels like I'm like but pushing it forward

Yeah What I noticed it's interesting was when you watched yourself in the mirror that you opened up the vowel on "love". It was love. but you kept the tongue there to keep the brightness. Do you want it to be brighter?

[01:10:58] Participant B: - I think so. I think I want it to be more consistent 'cause I feel like I start to belt like when I get to the prechorus, because I don't know how to make it sound like, I guess like I'm like like consistent in my voice instead of like

[01:11:12] SPEAKER_00: Yes so Let's try this

[01:11:20] SPEAKER_00: I want you to try... It is a little higher.... We'll let's try this. We'll do an "nei." Nei, Nei, Nei. Nei, Nei— Nei, Nei-- Nei— But I want you to give space, because it is higher. So we want to make sure there's that laryngeal fr... Ah! Agility. But keep the space, But I want you to give it like a pouty nay like think like Britney type of bratty energy. Like "nay"

[01:11:57] SPEAKER_00: Yeah, exactly just sing this whole phrase on "nay" and I'll stop you.

Participant B sings the melody on “nay”

SPEAKER_00: Good how did that feel?

Participant B: I got it more towards the end

SPEAKER_00: Like it was a little more bright. And when you get a little more belty and out of falsetto. It will be, try practicing it on

[01:13:08] SPEAKER_00: Like a little bit of a cry sound. But actually, how did the nays feel overall? Did it feel a little brighter for you?

Participant B: it felt easier

SPEAKER_00: Yeah, yeah, yeah That was cool. Now, let's take it from the “stop playing with my heart” and just put everything, stay in that nay space. So when we have that “nays”, it's nasal. It's also a diphthong. So we have a more open eh and then it goes to ee. Neee [i] So take that Nei feeling and just put all the words in there. Let's just take it from “stop playing with my heart “ and you see ‘play’ it's the same diphthong there.

[01:13:52] SPEAKER_00: So try that. I'll give you a one, two, three, four, one.

Participant B sings ♪

[01:14:15] SPEAKER_00: Wow, how did that feel?

Participant B: it felt better

Yeah, that was so cool because I noticed, uh, what was it? I'm down. Down was brighter. And also there too, you were able to keep more of the mix there. Yeah. And your mix was tighter there. It wasn't more of like a breathier falsetto. It was like, like the mix was tighter on down, even though it's a more open vowel. Yeah, cool. Now, all right, we have three minutes. I want to take, let's go to the ♪ Just trying to understand ♪

[01:14:55] SPEAKER_00: I want you to give that bratty cry again. You can think nay, you can think um yeah just put everything on the, in that like nay space but keep the Especially since this there's like a little more space here. It's syllabic, but there's a little more sustain

[01:15:14] SPEAKER_03: Keep the, keep the height too.

[01:16:02] Participant B: ♪ Over the Borderline..... ♪

SPEAKER_00: How did that feel? -

Participant B: it felt pretty good

SPEAKER_00 Yeah, that sounded great. What did you notice with the vowels there?

[01:16:18] Participant B: - I guess when I'm thinking of them, yeah, it's really easy to not let them fall back. But I also know if you're like, it's when it goes a little lower, it's hard to keep like the breath control. But because I'm thinking of "nyah" and going to that space, it's a barrier.

[01:16:40] SPEAKER_00: Yeah, it's almost like that forward momentum when we think our resonance forward, sometimes it helps the breath too. Also too, if you try keeping your ribs out on the bottom, yeah, while you're exhaling, try it out. But yeah, this is sounding great.

Participant B: Thank you. [class applauded]

[01:17:00] SPEAKER_00: Did you all hear that difference? I'm glad we're all being so supportive. Thank you all for cheering each other on. We support each other. You guys sound great. Who wants to go next?

Participant C: I can go next

[01:17:09] SPEAKER_00: Cool, lovely. And you are preparing for an audition, right? We love that too! Woo! "The light we cast." Um, when is the audition?

[01:17:27] Participant C: Next month, sometime next year.

SPEAKER_00 Excellent. Yeah, that's in the future. So, um, this. A cappella. Do you want me to play your notes with you?

Participant C: yes ♪ Now everything has come to rest, the end has come and I am not afraid♪

[01:18:03] SPEAKER_00: Beautiful, and that's the whole solo? - Yeah, it really is. - Yeah, that's excellent. Now we can really nit pick, I love it. Beautiful, yeah. And this is for choral piece, right? Yes. Cool. It looks like it's in, well, at least the first page. Oh, cool. I have some interest. Lovely. Now, choral stuff. But this is a solo. So, how many of you have been in choir before? Haha, yeah, we love choir. How many of you have heard "Round Tall Dark Blendable Vowels" before for choir?

[Everyone nods]

[01:18:47] SPEAKER_00: Yeah, I remember I was like starting to do some musical theater stuff when I was 14 and like in regional choir I was super spreading. And the conductor literally called me out in front of 90-- like, oh, there are 13 to like 15-year-old girls. And I was just like, oh my gosh, what? But yeah, my voice was just sticking out a sore thumb because I was like, ee! It was so bright! It was terrible. But this is a solo. So this is your time to take up space, your time

to show off your voice. You're not afraid, right? So I want to balance out that presence and that brightness, but still keeping it round

[01:19:31] SPEAKER_00: So then when you do have to go sing with everyone else, 'cause after the four bars you join singing everyone else right? So that way it's not just like "nyeh" to round. So let's sing um If I have one more time and I want to get like a little more space just so that this is staying this is very legato. Try this. Even though won't sound right and it's really don't worry about it. See the height? Yeah, you're gonna need that for the choral singing. Let your tongue take up space don't let it pull back. Very good. Very good. Very good. Now let's try that again.

[01:20:24] Participant C: ♪ Now everything has come to rest, the end has come and I am not afraid♪

[01:20:28] SPEAKER_00: Wow.

Participant C: I felt more like resonance. -

SPEAKER_00: Yeah, what did you all hear?

Participant F- Huge difference. - Hmm? - It's just a huge difference.

SPEAKER_00: Yeah, yeah, 'cause you gave the vowel room to breathe. Yeah, before, you were getting like that bright, like a brighter sound, but it was also not 'carrying'. So that was beautiful, beautiful. Now try it with that, that same space. Kind of like I was telling you before, [participant A], it's like every time you, because we have to close our mouths for some consonants, right? It's just the way language works. We make these sounds and it requires more closed mouths. But then when we open up to the vowel, almost pretend like it's like a release, like it's a drop of the jaw. Actually try this.

[01:21:16] SPEAKER_00: ♪ Now, everything ♪ With the wrists too, just try that. And just think, drop the jaw, jaw drop the wrist you're dropping the

[01:21:25] SPEAKER_03: wrapper in the trash.

Participant C: ♪ Now everything has come to rest, the end has come and I am not afraid♪

[01:21:49] SPEAKER_02: - Wow.

[01:21:51] SPEAKER_00: Beautiful. Yes, that was beautiful. Now, cool. I wanna try this. I wanna just, for the end,

[01:22:07] SPEAKER_00: let's get a little more breath there. So now everything has come to rest. Just go [th] you feel the diaphragm work there? Yeah just lean into that a little bit for the and

just think that forward momentum just so that that way it is a big jump it's a fifth so rest the yeah
you do have a breath there but let the be that momentum for you just try it from has come to rest

[01:22:38] SPEAKER_03: has come to rest

[01:22:44] Participant C: ♪ Has come to rest ♪ ♪ ♪ I am not afraid ♪

[01:22:54] SPEAKER_00: Good, yes, that's more air. Now let's try this. I just want to do this on...

[01:23:00] SPEAKER_00: Goo, let's do on a goo. ♪ Goo, goo, goo, gooooo, gooooo, gooooo. Use the glottle to ground you. Don't do it too harshly, but just keep that goo goo feeling here. but let the "oo" sustain. So sing this whole thing on a "goo."

Participant C: ♪ Goo, goo, goo, gooooo, gooooo, gooooo.

[01:23:37] SPEAKER_00: How did that feel?

Participant C: I think I was breathing more consistently around the ease because I would usually stop for a breatharound I am not afraid.

SPEAKER_00: Yeah, definitely. So you see also, when we sustain and we create legato, what's really nice is that when we're using our breath efficiently, we're not just like throwing and exhaling extra air out. Like sometimes when we have a really breath equality, we're just letting extra air drag across the vocal folds and then it just escapes. And it's not moving through the voice, the vocal folds, and then that's what it's called like leaky air and inefficient air. But then it's like, it's kind of like we have it and then it's all gone.

[01:24:20] SPEAKER_00: So just try this. (sing a 6 note scale on [ng])Try that. Yeah. Good. Yeah. Just follow it.

[01:24:37] SPEAKER_03: Try that. Good, yeah, just follow it.

[01:24:40] Try that.

[01:24:45] SPEAKER_00: Good. Now, try it.

[01:24:54] SPEAKER_00: There, remember that feel easier? Yeah. Yeah. So we're just trying to get the phonation to be lined up, especially in the spot of your voice where there's like a little bit of a break there between registers. So we just want to make sure that we smooth that out so that we'll be really nice, but we'll create a nice balanced closure of the vocal folds. We love that. So, try it now. Regular. Let's do it on words. Let's do it on text. Remember, drop the jaw, but just keep that same feeling here. We'll try that.

[01:25:26]Participant C: Now everything has come to rest ♪ ♪ The end has come ♪ ♪ And I am not afraid ♪

[01:25:47] SPEAKER_00: Good, now let's just try. (piano music) Try that. (piano music) Good, let the air go.

Participant C: sings ng

[01:25:57] SPEAKER_03: (piano music) Good, let the air go.

Participant C: sings ng

[01:25:58] SPEAKER_00: Good, now. Good, try with the [ng] before. Do you feel like that was easier?

Participant C: Yeah, it was like flat. It was right there.

SPEAKER_00: Yeah, exactly. So try practicing it on the " the mm because when we navigate those breaks in our voice it's like sometimes our vocal folds are like what muscle do we use to get closure like how do we get closure um and it sometimes may be a little bit awkward but you think that ng will help the closure of the set up there and then you can just go into the word so

[01:26:41] SPEAKER_00: when you practice like that then I'll just smooth that out right away but let's try one more time drop the jaw

[01:26:58]Participant C : ♪ The end has come and I am not afraid ♪

[01:27:11] SPEAKER_00: Beautiful. (audience applauding) That's true.

[01:27:13] SPEAKER_00: You sound lovely so lovely. Also, too, as you're practicing. Now that you have the jaw thing with this, don't, you don't have to do this all the time 'cause it'll take your musicality out of it and then we'll just be thinking, note, note, note, But yeah, but once you just did that for the jaw, now it's there. So excellent work. (clapping) All right. Who's next? Who'd like to ask? Would you. All right.

[01:27:49] SPEAKER_00: Do you want to start from the top? Do you want to just go through that section? What do you want to do? All right, let's do it.

[01:27:56] Participant D: Let's just start at the top! Cool.

[01:27:57]: Participant D [MUSIC PLAYING] ♪I always had all the answers, now I don't have a clue..... ♪

[01:30:51] SPEAKER_00: (audience applauding) - Good job. How does that feel? -

Participant D: It's fine. [applause]

SPEAKER_00: Good. Good. Now, I know you said before you wanted to maybe take a look at the second verse into the second key change. Let's go to the second verse. "So meanwhile there's so many things."

[01:31:16] SPEAKER_00: Let's try this

[01:31:25] SPEAKER_00: Lean into the that nasal. "Mmm." Me mean well this many things. It's almost like Tracy Chapman and fast car That's like what this sounds like. I did get that from a review I read online Yeah, they were like, this sounds like Tracy Chapman. But kind of like I think about it, and it's like almost approach it, like there's so many words in that song, right? It's terrible to say. I butchered it many times, terrible. I don't understand it. But when we approach this, so "meanwhile there's so many things I don't understand" just remember get that space but the tongue take out that space but I want you to think of the tongue moving forward almost like when we place the "mmm" here because mmm is a nasal

[01:32:09] SPEAKER_00: consonant and there's a bilabial nasal consonant we want to make sure that when we have that forward placement the tongue kind of like like we think about the tongue following with two. So just try and think of that forwardness there. Um, meanwhile and it's also an E vowel too which helps. Just try that.

[01:32:35] Participant D "Meanwhile there's so many things I don't understand...."

[01:32:48] SPEAKER_00: Wow, how did that feel?

Participant D : Better

SPEAKER_00: Yeah, the meanwhile there was so much clarity there and especially with musical theater, you know, like it's so about the text. We need to make sure it's not like, as I was saying before, like Ariana Grande is so terrible diction. Yeah, yeah. But that's because, you know, the text isn't the highlight of the focus with her music. It's more like acrobatic so she needs to have more of that wider pharyngeal space to get that agility there so her voice can move freely for all those runs. Something like this here, like all eyes are like, what are you going to say? Like all eyes are locked on you, like oh my gosh, what's happening right now? This is intense.

[01:33:30] SPEAKER_00: Um, so right there, that brighter nasal resonance set you up to have more of that clarity.

[01:33:39] SPEAKER_00: Now when we have the, away!

[01:33:43] SPEAKER_00: Try not to widen. Watch yourself. Um, I didn't know how to love, let the love do that. Because you also have to love away. Put the A.

Participant D: In with the A?

Yes. You know it. Alright, let's try that. [MUSIC -

[01:34:17] SPEAKER_00: How'd that feel?

Participant D: Better

SPEAKER_00 Yeah. Now, watch two on away. I normally don't ever say this, um, but your tongue was just dipping down a little bit for the (singing) Let it be let it be fluffy. Just try, um, hmm. (singing nay nay) Try that.

Participant D: (singing)

SPEAKER 00: Yeah, can you feel your tongue wanting to fall? ♪ Nay nay nay ♪ Try that. ♪ Na na na ♪ Yeah, can you feel your tongue wanting to fall?

[01:34:48]Participant D: - I'm like, I can feel it wanting to bend in the center of it

[01:34:50] SPEAKER_00: - Yeah, don't worry, you're not the only one, I do it too. (piano music) - But just try it, actually do this. ♪ Yeah, yeah, yeah ♪ You see how the [ja], it sets the tongue up to be higher there. So when we have yuh, it's so then that way it counteracts the tongue wanting to hide there. And what it does is it boosts that second form and it's brighter. The yuh, yay, yay, yay. So just try that. Yay, yay, yay, Just try that. Just try that.

Participant D Yay, yay, yay,

[01:35:37] SPEAKER_00: Wow, do we see how much brighter that sounded in general. It brought the clarity. Wow, beautiful. Now, let's try put all of those words in that yay type of box.

[01:35:46] Participant D: (i didn't know how to love until you swept me away- music)

[01:36:02] SPEAKER_00: That was beautiful. How did that feel?

Participant D: - Better, better definitely..

SPEAKER 00: Oh yeah, cool. Now, in our last two minutes, I just want to try the... I want to do that, the key change, because it's so good.

Participant D: Which one?

SPEAKER 00: I know, so many.

Participant D: The one at forty- seven?

SPEAKER 00: Um, the one actually at the because I want to take that a vowel so let's just do the at 50 pick up the 53 for the now And then today, I want to get that.

Participant D: "Just tell me now, I'm ready now, TODAY, SAY!" ♪ ♪ ♪ ♪ ♪ ♪

[01:36:59] SPEAKER_00: That was gorgeous. How did that feel?

Participant D: When I find it, it feels good.

SPEAKER 00: Yeah. And that's the thing is we have to set up our vowels to... Sometimes we can use consonants to set up our vowels to be how we want them to be. So if you're noticing your tongue wanting to pull back, using the yuh worked before, and it set you up when you had that today say, that really was beautiful. Excellent, excellent. (audience applauding)

[01:37:32] SPEAKER_00: Thank you, All right. Who wants to go next? Cool. You have some Amy Winehouse um take your time this like bassline intro goes like forever I can't play it simultaneously [MUSIC]

[01:38:10] SPEAKER_00: All right, I'll give you a bar.

[01:38:12] Participant E: [MUSIC] ♪

[01:41:30] (audience applauding)

[01:41:34] SPEAKER_01: - How does it feel?

Participant E: - Um, okay. It felt a little, I feel like I was struggling more with the lower notes this time, which was not what was happening earlier today, so I don't know.

[01:41:49] SPEAKER_00: - You know, why I think that is a little bit. I noticed that some of your vowels are just spreading a little bit more. And what happens is, yeah, when we spread it constricts the pharyngeal space, [coughs] see? Oh my gosh, it does. So, I knew it. Oh my god. So, let's try this. I want, because you're doing a really good job of keeping that conversational brightness. But let's open up the jaw a little bit. Let's try it. But let the tongue be fluffy. Take up that space. That way, you still get that brighter sound. Let's go back to the um... [singing]

[01:42:28] SPEAKER_00: Ah, gosh. Where did it go? Um, uh, the, the, uh, sweet reunion, Jamaica and Spain. Sweet. And I know [i] is the brighter vowel, but let the tongue come, say ye. Ye. Ye. Let the tip of the tongue rest at the teeth, and then let the middle of the tongue back, middle back, do the
Participant E. :E.

[01:42:55] SPEAKER_00: Yeah, there you go. So now,

[01:42:57] SPEAKER_03: yeah, think fluffy and novocaine tongue.

Participant E. [MUSIC]

[01:43:21] SPEAKER_00: How did that feel?

Participant E. Better.

SPEAKER_00: Better? What felt better about it?

[01:43:26]Participant E: Um... Every...thing?

[01:43:30]Class : [LAUGHTER]

[01:43:33] Participant E: I guess, yeah, I didn't feel like I was, I mean, it just felt easier, just easing the voice in general. I could feel the resonance much more.

[01:43:46] SPEAKER_00: Yeah, it's like you had that agility because your jaw wasn't clenched, but at the same time your tongue was taking up that space, getting that E type of height of the vowel modifying it to that. So then that way, we're still able to get the brightness and the clarity out. That was excellent. Let's keep going. Let's actually go back a little bit. Let's do it on "upstairs, upstairs in bed." Get that same type of dropped jaw higher tongue. 2, 3, 4, 5

[01:44:22] Participant E: [music]

SPEAKER_00: Good. Watch. "Can't get joy. Can't, can't, can't." Yeah, just try that, but let the tongue take up that space. So, so she said, can't get joy.

[taller] Can't get, can't get joy.

SPEAKER_00: Yeah, you see how there's more space in the mouth, but now your tongue can actually take up that height there. Just try it. "He's in a place but I can't get joy" ♪ Try that.

Participant E: ♪ He's in a place but I can't get joy ♪

[01:45:07] SPEAKER_00: Good. Let's just try it. Let's back up to upstairs and then we're going to a two, three, four.

[01:45:13]Participant E: ♪ but I can't get joy ♪

[01:45:18] SPEAKER_00: Wow, how did that feel? - That felt better. - Yeah, yeah, let's keep going.

[01:45:28] Participant E : ♪ I knew I would ♪you know i'm no good ♪

[01:46:17] SPEAKER_00: Good! How did that feel?

Participant E: - Good.

SPEAKER_00: - Good. Now, you know, I want you to do almost like a little bit of bratty-ness too. ♪ You know that I'm no good ♪ Let's get just like the tiny, like dial up the sub-glottal pressure just a little bit, tighten up the mix. Just try that.

[01:46:34]Participant E: ♪ You know that I'm no good ♪

[01:46:39] SPEAKER_00: Yeah! How did that feel? Yeah! Excellent! The thing is now that you have this, you're not clenching with the jaw, right? What's happening is now you're able to play with like a little bit of laryngeal jaw height. We can get like a little bit more of a tighter mix like a sub-glottle pressure like thing. To kind of like add to the attitude of like a song that Amy Winehouse is like known for. So we're able to add that in, once you have this more framework of ease. It's kind of like the foundation. it's like what we were talking about before- a little bit of salt right? You kind of

[01:47:21] SPEAKER_00: like add something like we don't want to start here because that's like a brick of salt for dinner. We don't want that. We want the food and then we want to sprinkle in a little bit of spreading. So whenever you hear vocal coaches talk about spreading, okay, that's fine. However, that's not the basis. That's not the meat of it, because what that does is it constricts the pharynx, raises the larynx, and if that's our baseline, that's not going to be a helpful baseline to sustaining, on lots of different notes. So, excellent work on that. [Applause] Alright.

Participant F: I can go, I've just been waiting for my body to warm up because I have the shivering.

[01:48:01] Oh, I'm sorry. Yes, the AC is here. It's not fun.

Participant F: Its probably where i'm sitting

[01:48:06] SPEAKER_00: Oh, the window. It's so drafty. I was in here. I'm glad you have your coat. It's a very nice coat. I'm sorry you're cold.

I'm OK.

So yeah. And I was not ever planning to go super fast with this. This was actually the first version of this that I heard was the same version. So that's kind had the one with your key.

Where did it go? I had it because I remember AirDrop here. I'm just going to hold it. I also can't play it very well anyway.

Participant F: That's totally fine

[01:48:50] SPEAKER_00: Here we go. Okay okay let me try I'll just give you some things. I'm sure.

Participant F: I gave you the mxc file, You just play with the program.

Speaker 00: I can. Would it be easier for you? Yes, but let's try this. Because I have to open up Muse score, and that takes forever on my computer.

[01:49:38]Participant F: ♪ [MUSIC PLAYING] in darkness ♪ Let me dwell.....

[01:52:52] (audience applauding)

[01:53:18] SPEAKER_00: Sorry I butchered it. You sound great. That sounded lovely.

[01:53:26] SPEAKER_00: Cool. Now, I know you don't want this to sound more classical, but I do. I don't understand, but I don't need to go into some classical. Oh yeah, I know. I want to get just like a little more depth to the vowel. Do you know what I mean by depth?

[01:53:45] Participant F: Back.

[01:53:47] SPEAKER_00: A little, yeah, a little bit of rounding things out. So let's try this. I want you to almost...

[01:53:55] SPEAKER_00: Let's go back to the beginning. So let's go to the... Just speak. The ground, the ground shall sorrow, sorrow be. And I want you to add a little bit of height. Not necessarily British, but add a little bit of height. Just a second.

Participant F: - The ground, the ground shall sorrow sorrow be. -

Good, now let's try singing it.

[01:54:16]Participant F: ♪ The ground, the ground, the ground ♪ ♪ Shall sorrow sorrow be ♪

[01:54:31] SPEAKER_00: - Good, how does that feel?

]Participant F - Looser.

- Yeah, yeah, and what that did was it helped, when things feel like a little looser, it helped the legato. So everything was so smooth when you were able to sing through the vowel instead of placing the vowel for each thing. And this is like Legato city, this song.

Participant F: For better for worse ahaha

Yes, I want you to think of the vowel almost, okay, once again with the analogies and the metaphors. Almost think of it like a necklace, like the vowel is the string that goes across the beads. The beads are the consonants. So the vowel, there's that goes across the beats. The beats are the consonants. So the vowel, there's a vowel under every consonant. I want you to get space for that vowel.

[01:55:13] SPEAKER_00: And you already have the clarity from the width. You let's round it out and give a little height to it. Let's just try it. "The roof despair". You have that same type of space.

[01:55:29] SPEAKER_00: Yeah, and the breath is like flowing really beautifully through this. So let's try that.

[01:55:30] Participant F: [MUSIC] ♪ The roof despair.....♪

[01:56:16] SPEAKER_00: Good. Now on "weep," just give a little bit of height. So, the "e" was good, and I just think you can just add a tiny bit of height to it. We, we, just saying "we." We, yeah, exactly. was good and I just think you can just add a tiny bit of height to it. Just saying "wee, wee" yeah exactly. Get with that space so let's take it from that moisten still

[01:56:42] Participant F: Uh measure 17th

SPEAKER 00: Yes

Participant F: Moisten still ♪ shall weep.... ♪

SPEAKER 00: Wow, what did you notice?

[01:56:58] Participant F- Flowy-ier more.

SPEAKER 00- Yeah, the legato.

Participant F - It's getting less stuck.

SPEAKER 00 - Yeah, and that's a nice thing too, is that sometimes when we have consistent vowels, it helps the breath. It's like all of these things, breath, phonation, vowels, articulation, all of that, they're all connected in some way. So sometimes when we loosen up here, it makes the breath work. Sometimes when we focus on breath, it makes all the tension go away here. It's all

interconnected. So what you did, was you added a little bit of height to the vowel and it let the legato shine through. And legato is all breath. It is so hard to sing smooth.

[01:57:41] SPEAKER_00: But what you did was you really sang into the vowel when you gave it a little bit of height. Yeah. How do you feel?

Participant F: Great

Yeah, excellent work. This is actually great. Give it up one more time for all of you who are saying and also all of you who are here. Yeah, you all sound so lovely. It is a privilege to be able to work with you all. Thank you so much for letting me do this. And thank you all for being so supportive to each other. We all have to have each other's backs, especially in the world that we live in today.

[01:58:23] SPEAKER_00: And also too, it's so hard to sing in front of other people. I titled this workshop as like "Seen and Heard" because it is like, I'm trying to like get like a sensory approach to like learning how to modify vowels, formant tuning what not. So, but also at the same time, we have to see each other and that means we have to witness each other and hear each other. And that also means doing that work of seeing and hearing each other as we're growing. And that isn't always like a clear linear beautiful like process. It is sometimes.. it's very vulnerable and it takes so much strength to be willing to show that vulnerability, to witness each other and make space for each other, but also to show up

[01:59:07] SPEAKER_00: and be like, this is who I am, this is where I'm at and I'm going to be seen and I'm going to be heard. One of the big takeaways I'm getting out of working with all of you is seeing how all of the..... We need to make space for the vowel like we make space for each other.... once again with the metaphor [LAUGHTER]

[01:59:28] SPEAKER_00: We need to let the tongue take up space Instead of shrink back hence like we also should take up space as well [LAUGHTER]

[01:59:39] SPEAKER_00: Yeah, but also, the thing is, is that when we close down, when we like pull back, that's oftentimes a result of shame. And shame is a very powerful state of being. It's not emotion, I heard, it's a state of being. It's also one of the seven core issues of adoption, if anyone wants to hear about that. (audience laughing)

[02:00:03] SPEAKER_00: But yeah, which I did for two hours of last year. But the thing is, is that shame actually impacts the voice by constricting the vocal apparatus. Because when we pull down, when we clench with our jaw, when we silence ourselves, it's like we want to make sure that we're safe. It's our body's way of making sure that we're safe. So we're like, thanks, Body, cool. But we're not being chased by bears right now. We're not about to be bears right now. Like we're not like about to be you know

[02:00:34] SPEAKER_00: like exiled out into like an abandoned island with no food or like water. But that's like our body's way of keeping us safe. But that's the beautiful thing about singing and that's why singing is great at showing us how to live life. It's because you know despite of what sometimes our body is like trying to do to protect us, it shows us, 'oh, we don't have to live in that state of fear' because we're not being chased by bears right now. We don't have to hide from, you know, you know, grizzly bears, which is really great. But it also, while we can thank our body for letting us, for protecting us, we're saying, "All right, we don't need to do this anymore. We don't need to live in shame. We don't need to live in fear. We don't need to be silenced by guilt. We don't need to be silenced by shame.

[02:01:19] SPEAKER_00: We can allow ourselves to be free, to be seen and be heard, 'cause that's what we all deserve. And now I hope that you all can walk away with some like little tools and things that you can do to be seen and heard in ways that feel most authentic to you all. But yeah. [Applause] Yeah thank you all. And there are rice-crispy treats, please. If there are any left, eat them. But yes, thank you all so, so, so much. If you have any questions, let me know. Message me, text me, email me. Anything like that.

Participant F: Are you going to send us that PDF on that chart? Yes, I will send you all of those things with the email

[02:02:03] SPEAKER_00: that you signed up for this class with. Also, what else was I gonna say? Oh, please fill out the exit survey. I'll also send a link to that too. It should be on that link tree menu that where you initially filled out the forms. And if you didn't fill out the forms, totally fine. If you do not want to participate in the research, totally fine. If you just wanted to vibe today, that's totally fine. But if you would like to participate in my master's research, as those of you who took the entrance survey, it's very quick, right? Very couple questions, not hard. And it will help fill research in a field with right now,

[02:02:48] SPEAKER_00: research is not being funded, especially right now. So that's why, you know, I'm grateful that I go to school in the United Kingdom right now, even though i dont know if things are much better there either. (laughing) But all in all, if you would like to participate in my thesis, just fill out the entrance survey, exit survey, those of you who sang, you filled out the master class survey thing. Thank you so much. And the confidentiality form too, because I want to be ethical, because I care about all of you. But yes, you all sound fantastic. I'm so proud of all of you, and I'm honored and privileged that I get to yap at you and work with you.

[02:03:32] SPEAKER_00: So thank you. Thank you so, so, so much. Let's all be seen, visible, and heard. All that good stuff. But thank you all. Enjoy the rest of the day, and stay warm, because it's chilly out there.