

The Significance of Vowels in Cross Training in Different Vocal Genres

How do vowels impact cross training between vocal genres, and how does one effectively utilize vowels in singing various vocal genres?

Module 1

Word Count: 3811

This study will explore the most effective methods of teaching vowels in singing using a cross training approach between different vocal genres. Today's singers must adapt to a wide range of vocal genres. Cross-training is instructing vocalists to sing in more than one genre, in the same way that athletes might train for more than one sport (Wilson, 1997). Cross training between vocal styles is described as a necessary skill for all singers performing and making a living in the music industry today (Ragan and Popeil, 2019). Many classically trained singers end up having to perform musical theater, jazz, pop, RnB, and other genres to find work (Cardon, 2021). Debra Greschner, a professor and soprano, observes benefits to cross training because it requires singers who are alternating from different genres and exploring the full range of their voices. She also makes a point that contrasting repertoire may protect singers from vocal fatigue resulting from spending too much time in one part of the range (Greschner, 2019). However, many singers struggle to authentically sing in genres they are not trained in. There are significant factors that alter the various vocal timbres of each genre (Ragan and Popeil, 2019). Some of these include the position of articulators, the pharynx and the larynx which change as the vowels change. As a classically trained vocalist myself, I find it difficult to translate my technique for classical repertoire and apply it to my work singing in other CCM genres. After graduating with my Bachelors in Vocal Performance, the music industry has led me on a journey towards other styles of singing. I began to explore with vowel shapes as I was in the recording studio and found different sensations of resonating vibrations in different places. While I continue to find significant merit in my classical studies, very little of the work that financially sustains me as a full time musician is in the classical voice field. I seek to bridge the gap between traditional classical technique and CCM technique in the voice teacher's approach to vowels and resonance. This paper will critically analyze research and determine the best possible ways to teach vowels in various genres of vocal music considering how vocal anatomy and acoustics shape vowels.

ANATOMY and ACOUSTICS

The vocal tract is the resonator for the human voice. The source of sound originates from the vibrations of the vocal folds, which causes the air in the vocal tract to vibrate at various pitches, which are called formants. The space reaching from the top of the larynx and the back of the tongue is where the first formants resonate. The space above and in front of the tongue is where the second formants resonate. See figure 1 (Irene and Harris, n.d.).

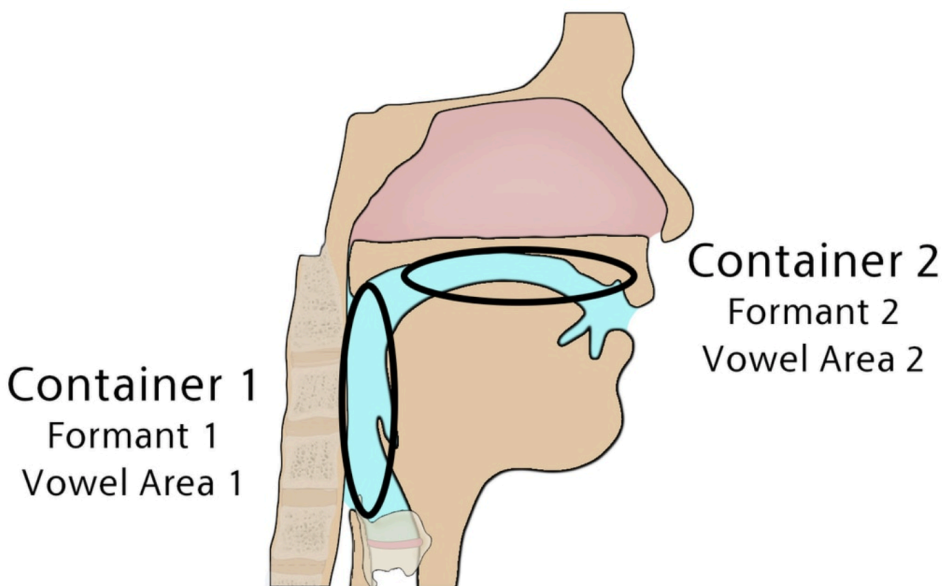


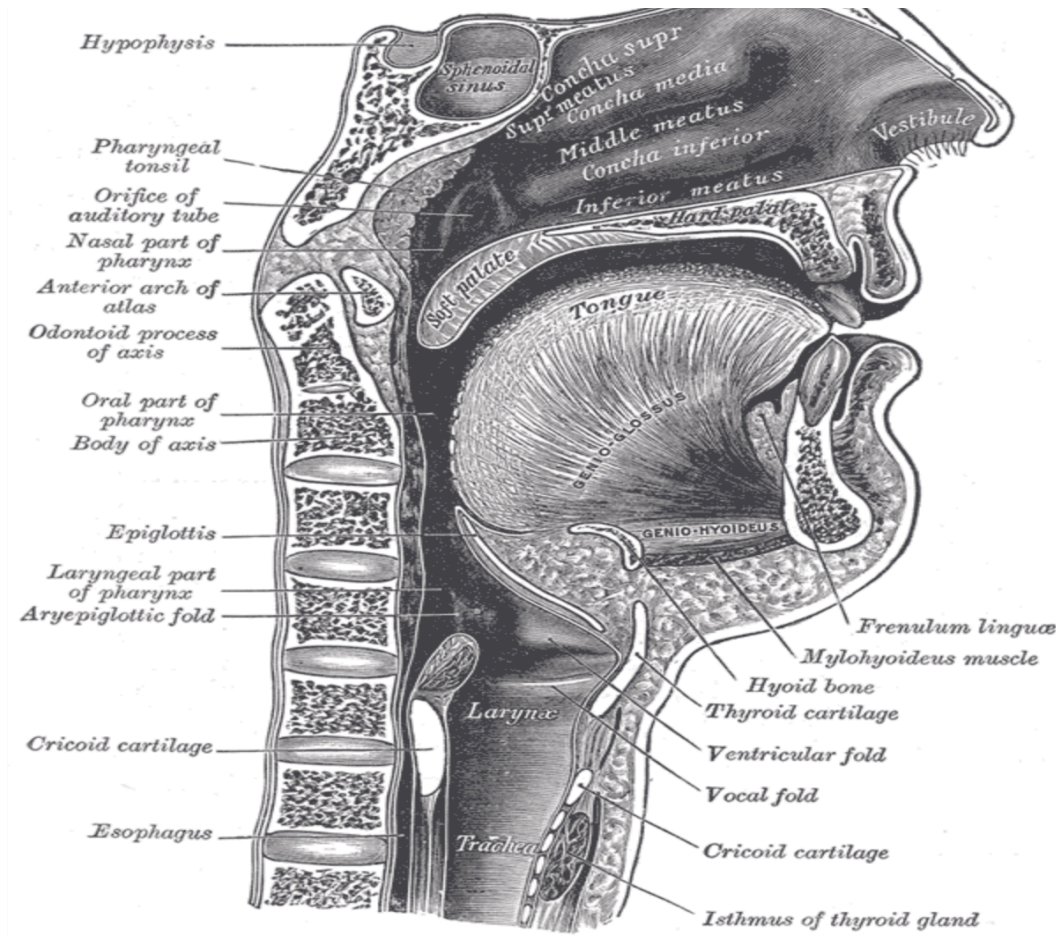
Figure 1. Formant Resonance Locations. Voicescienceworks.org, 2023

Lip rounding lowers both formants, particularly, the first, and lip spreading raises both formants, especially the first. The tuning of the vocal tract shape is typically referenced as articulation (Bozeman, 2013).

The tongue is mentioned in the voice studio as another articulator, however, Johan Sundberg (1987) notes the significance of the tongue concerning resonance. The second formant is directly impacted by the shape and position of the tongue. A fronted tongue will increase the second formant, whereas if the tongue is moved further back, closer to the velar region, the second formant will decrease in pitch (Sundberg, 1987). The tip of the tongue will raise the third formant when advanced. The tongue will lower the third formant when pulled back. When the tongue is pulled back it constricts the oral-pharyngeal resonating space and will raise the first formant (Sundberg, 1998).

Sundberg also notes that female singers seem to tune the first formant by adjusting the jaw opening. Measurements on female singers' jaw opening indicate it is systematically increased with the rising fundamental frequency (Sundberg, 1988). Irene and Harris suggest when the jaw opens, the space behind the tongue decreases and the area in front of the tongue increases. This results in the increased pitch of formant 1 and the decreased pitch of formant 2.

If the larynx is raised both spaces in the vocal tract are smaller, so the pitch of the first and second formants get higher. (See figure 2)



from the 20th U.S. edition of Gray's Anatomy of the Human Body

Figure 2. Sagittal section of Nose, Mouth, Pharynx, and Larynx (Gray, 1918)

However, if the larynx is lowered both spaces in the vocal tract are larger, decreasing the pitch of both F1 and F2. If the pharynx narrows, the space behind the tongue becomes smaller resulting in the pitch of Formant 1 increasing. However if the pharynx stays neutral the space behind the tongue remains large so the pitch of Formant 1 is lower (Irene and Harris).

The soft palate is a key aspect to resonance. The Oxford Handbook of Singing (Welsh, Howard, and Nix, 2014) cited in Kayes (2015) notes, elevating the velum will close off the

nasopharynx from the oropharynx...when the soft palate is lowered the nasopharynx will open resulting in resonance from nasal and oropharyngeal coupling together.

VOWELS and ANATOMY

Many singers notice that different vowels will resonate differently. They will feel secondary vibrations in different places in the body, due to the formants resonating at different pitches. The formants will resonate at different pitches due to the size and shape of the formant. Vowels in the teaching studio will often be described as closed or open, front or back. There are anatomical and acoustic reasons for these adjectives (Bozeman, 2013). The first formant's frequency determines the "openness" or "closeness" of a vowel. Open vowels are considered open due to the position of the tongue being lower in the mouth causing there to be more space (O'Connor, 2022). Closed vowels are considered to be closed due to the position of the tongue being higher in the mouth resulting in less space in the mouth. See figure 3 (Irene and Harris, n.d.).

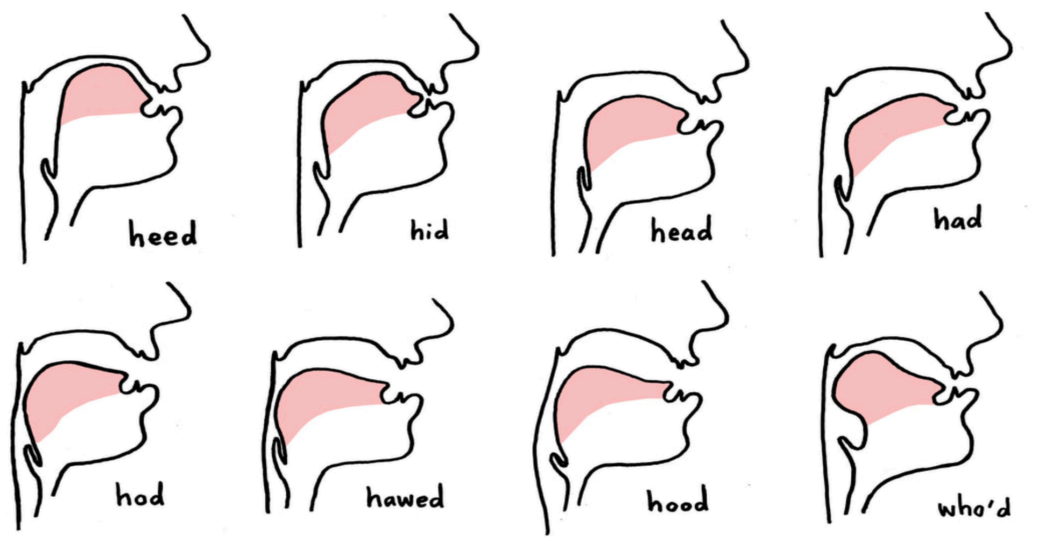


Figure 3. Tongue position and formant space of various vowels. Voicescienceworks.org 2023

Closed vowels such as [ʊ] or [ɪ] have low first formants. Open Vowels Such as [ɛ], [ɔ] or [ɑ], have high first formants. The higher the formant, the more open the vowel; the lower the formant, the vowel is more closed. The second formant is why vowels are perceived as front or back. Front vowels such as [i] have a high second formant while back vowels such as [ʊ] have a low second formant (Bozeman, 2013).

The [i] vowel is characterized by an elevated back tongue. The space behind the tongue is large, but the space in front of the tongue is smaller. As mentioned previously this results in a

low formant 1 and a high formant 2. The [ɑ] vowel is formed by a neutral-low tongue position increasing the space in front of the tongue while decreasing the space in the back, resulting in a high formant 1 and low formant 2. The [ʊ] vowel has lowered pitch in both formants due to both spaces in the vocal tract being enlarged (Irene and Harris n.d.). This is also because the [ʊ] vowel requires a lower larynx. Front vowels [æ] and [i] have a higher larynx height than [ʊ]. Front vowels such as [i] also have typically higher than vowels [ɑ], [ɔ], [ʊ] /. An explanation for the lower larynx position in [ɑ] may be that lowering the larynx, assists the tongue to move back into the pharynx since it is connected with the hyoid bone (Moisik, et al, 2019). Irene and Harris (n.d.) also note that “If the tongue is retracted and the muscles by the hyoid bone are contracted, it can contract the space around the larynx, making free vibration impossible for the larynx.”

Various Genres and Formant Frequencies

Formant frequencies directly affect voice timbre (Sundberg, Thalen 2015). This indicates that crossing between different styles of vocal music would require one to alter formant frequencies by means of the articulators and resonators. Each mouth shape creates a basic resonance that can be made precise by changing the laryngeal height (lower or higher) or altering pharyngeal width (neutral constricted or wide.) Latimerlo and Popeil (2012) note the three possible positions of the pharynx. A wide position is best suited for classical and R&B singing. A constricted pharynx creates an ideal timbre for country and rock singing. However, music theater, jazz and pop singing require a more neutral pharynx. The positions of the vocal tract alter the sound considerably and therefore can help the singer adjust to singing in different genres (Cardon, 2021).

A classical singer will use a broad range of vowels, especially when singing in various languages such as Italian, German, French, Spanish, English, Russian etc. however, classical singers tend to use darker vowels than the typical CCM singer (Wilson, 1997). Chiaroscuro, refers to the balance of lightness (chiaro) and darkness (scuro) of vocal tone color, which results in a balanced timbral quality (Miller, 2004). Classical vocal teachers have established that for the classical singer to achieve a darker tone found in chiaroscuro a lowered larynx relative to pitch is the proper position (Wilson, 1997).

Comparison of Technique in Different Genres

Pictured below is a chart by Lisa Popeil analyzing the various genres of vocal music and the resonatory factors that correlate with each style of singing (Ragan and Popeil, 2017).

STYLE ANALYSIS - FEMALE										
	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										
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, 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										
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

Figure 4. Visual Analysis of Resonatory Factors in Various Genres. (Popeil, 2017)

Classical technique requires a pharynx that has been lengthened and widened utilizing formal language consisting of long, tall vowels. These long tall vowels are characterized by a more convergent mouth shape creating vertical space with height in the back with the soft palate and a narrow mouth opening (Neely, 2007). As mentioned before, these qualifications are similar to the /u/ vowel, which lowers the F1 and F2. Ingo Titze notes that lowering the F1 and F2 also has the effect of creating spectral distance between the vowel determining formants and the other formants known as the signers formant cluster (F3, F4, F5) allowing the listener to clearly distinguish the chiaroscuro (Titze, Maxfield and Walker, 2017). This ring of the chiaroscuro is known as Squillo (Ragan and Popeil, 2019).

On the other hand, CCM singers tend to utilize a more speech-like quality to their vowels. The megaphone or divergent, mouth shape, is characteristic of musical theater singing, some jazz and pop singing, and high-energy gospel singing. This mouth shape is known to produce a timbre that is often described as open, yell-like, or brassy (Ragan and Popeil, 2019).

CCM singers use a divergent wide mouth shape to create a brighter sound. It is created with a wide opening at the lips, a narrow pharynx, and sometimes an elevated larynx (Bozeman, 2013). Squillo (the distinction of the singer's formant which is achieved with an open throat), is no longer the necessary goal for the CCM performer. The singer no longer has to project over other instruments due to technology advances in amplification (Wilson, 1997). However, genres such as musical theater and country utilize “twang” which consists of a lowered soft palate for nasality. This nasality boosts formants and results in amplification (Titze, 2022). CCM singers can use a more closed pharyngeal position which results in a more speechlike tone necessary for modern genres (Cardon, 2021). When singers keep a closed pharyngeal space and incorporate closed bright vowels, singers discover a free sound that remains aligned with appropriate musical theater timbre (Vala, 2021). The raised larynx causes the increase in pitch for formants 1 and 2. The narrowed pharynx results in the increase in formant 1. Sundberg notes that the first formant tends to be closer to a harmonic in belting style from other types of singing due to subglottal pressure, phonation, and articulation characteristics (Sundberg and Thalen 2015). Many singers tend to feel the resonance vibrating in the oral cavity, behind the upper front teeth. This creates the sensation known as dental resonance. A good general rule of thumb for starters is “the higher the pitch the bigger the smile”. It will allow you to maintain a brighter sound (Neely, 2009). This is due to the widening of the lips which raises the pitch of the first formant. These are explanations on how to form different sounds for different genres, and why they are achieved.

TEACHING STRATEGIES:

Recognizing Vowel Sounds

The need for resonance in any genre is to allow the initial phonation of the vocal folds to reverberate in the vocal tract. A great way to introduce this is by merely speaking. Challenging the student to imitate the “voices” the teacher will make by playing around with different accents such as British, Australian, American Southern, American TransAtlantic, American Midwest. These accents will help them play around with different vowel sounds since various accents require different shapes of the mouth and therefore resulting in different vowel sounds (Hero and Houston, 2023). Assist the student to think critically by prompting them with the question “What did you feel was different about each one of those?”

Identifying Anatomy

Introducing the soft and hard palate is a suitable next step in laying the framework for vowels and resonance. Teachers can ask the student to yawn to feel the stretch of the soft

palate in order for students to locate it in the back of their mouth. Teachers can simply identify the hard palate as the hard roof of their mouth towards the front. It may be an appropriate time to mention to the student that the soft palate should be raised on the inhale for certain styles of singing, especially classical (Reagan and Popeil, 2017). Latimerlo and Popeil utilize an exercise in “Sing Anything” by directing the student to pinch their nose and speak creating nasal sounds, and non nasal sounds indicating a lowered soft palate or a lifted palate. I have found this practice to be effective in my own practice as my own teacher instructed me to use this exercise to lessen nasal brightness in singing “Ain’t it a Pretty Night,” from Carlsile Floyd's Susannah. As a music director of an acapella group, I have used this with a soprano who has a musical theater background. This results in her singing with more genre appropriate intonation and blend with the group.

Recognizing Various Vowel Shapes

Once the student can identify the soft palate, the teacher can begin to speak about vowels and how they are formed in the mouth. Utilizing an IPA vowel chart is an appropriate visual aid as the student repeats each vowel sound after the teacher. I have done this with children as young as eight years of age and it works well with visual learners. Teachers can explain the difference between open and closed vowels and how vowels are shaped with the tongue and lips (Cardon, 2021). A great exercise is to have the student sing a pure [ɑ] vowel on a comfortable pitch, and then prompt them to smile as they are sustaining the note. Then the teacher can prompt the student to form a convergent mouth space, with more rounded lips, and the widening lift of the soft palate (Neely, 2009). Once again, the teacher should ask the student what they noticed so the student can begin to develop sensational awareness around resonance.

Developing Twang for CCM Singers

Next, discovering nasality will be key in assisting CCM students developing “twang.” Utilizing the [ŋ] nasal consonant, the student can find nasality as they experiment with speaking words that end in “ing.” After the student has done this, an exercise consisting of [ŋi] on a sustained pitch will combined the nasal consonant further back in the mouth with the bright closed vowel maintaining the closed nasal “placement”. Then challenge the student to do the same thing with open [ŋa] but keep the same “placement” as the bright closed [ŋi]. This can also be done with other nasal vowels, but I find [ŋ] is the most effective (Latimerlo and Popeil, 2012). Kari Ragan also notes an exercise in “A Systematic Approach to Singing” used frequently

by Julliard Emeritus, Ellen Faull (see figure below).

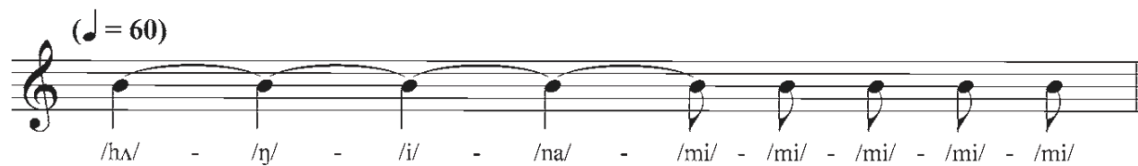


Figure 5. Notation for “Ode to Ellen Faull.” (Ragan, 2020)

When the singer switches between nasalized consonants [ŋ/n/m] and vowels [i/a], they will achieve a more consistent resonance sensation. (Ragan, 2020)

Conclusion

LeBorgne and Rosenberg (2021) note, “Within this cross-training, singers must learn to navigate a heavier weight to the voice as they ascend in frequency with appropriate resonance strategies (jaw opening, bright vowel tuning) to counterbalance what is happening at the laryngeal level. Conversely, they should also be able to produce the same set of vocal exercises with a lighter vocal weight while maintaining stylistically appropriate timbre.” Flexibility is key when cross training singers. As students advance in their studies accomplishing resonance, they need to discover the wide array of resonance they can utilize and how that can impact timbre for different styles. Having a firm grasp of the acoustical anatomy of the voice is key in understanding how resonance functions in the human voice. Connecting the anatomy of vowels to the science of acoustical resonance informs singers and equips them with a specific framework to make adjustments in vowel shape and laryngeal/pharyngeal positioning. An analogy my first voice teacher, Heidi Counsell Schimidt (co author of *The Basics of Singing*) told me in my first voice lesson is that different timbres and styles of singing are just like tools in a toolbox. You can change them out depending on the job. Teachers can educate their students with a wide spectrum of tone colors, resonance strategies, and vowel shapes to suit all kinds of vocal music genres. Laying a proper framework for discovery through sensational awareness in vowel sounds students are already familiar with is a fantastic way to comprehend the various tools they can use to color their voices for different styles. Cross training across vocal genres is necessary for singers to function in the twenty-first century, and the ability to adjust the diction tools they use is key.

Part Two: Reflective Review

Schön's reflective model appealed to me during my process of cross training, as I had learned a lot from experimentation and experience, but found a lot of research to expand upon what I already learned. I initially began this topic as a way to expand upon my own learning process. I also noticed parallels from my process of learning to Gibb's reflective cycle (1988). For the purpose of this study I took these steps in the reflective cycle as a process of finding an issue, reflecting upon why I felt there was an issue, then taking steps to solve the issue and learning how to apply my discoveries to other areas of my musical life.

During my undergraduate studies, I noticed how an [i] vowel would result in a brighter sound, and [a] vowels I would struggle to obtain the same sensational resonance. This discovery laid the foundation for my experience in cross training. I struggled with singing in other genres as a classically trained singer, and most of the work I could find was in CCM. This experience would fit under Gibb's first stage in the reflective model (1988). I was discussing this with some friends who told me my sound wasn't working with these genres. I felt frustrated with my rigid, especially with the promise of many people claiming, "if you can sing classically, you can sing anything." This experience would fall under the second stage in Gibb's framework, which is identifying feelings (1988). I reflected upon my feelings of frustration and experiences, which would be considered by Schön "reflection on action" (1983). This led me to build upon what I already knew about vowels and resonance. With a lot of experimentation with vowels, I began to appreciate what I had learned in diction during my undergraduate studies. By playing around with various vowel shapes, I was able to obtain a brighter sound using the [i] vowel. This would be considered reflection in action, as noted by Schön (1983). As I evaluated my response like in Gibb's third step in the reflective framework, I noticed a positive outcome by seeking to learn and solve the issue at hand (1988).

My ability to sing in various styles was better, but still I struggled to sound authentic in other genres. I moved to New York last summer, and got involved with mostly CCM opportunities, and realized my sound was still classically based. Also, when I began teaching at Eleonor England's voice studio, I began to see that my students only wanted to sing exclusively CCM music. Now that I was no longer just working with children, I needed to give a better foundation to my students so I began to investigate and learn more, so I chose this topic for my formative assignment. As I was researching this topic, I understood that I must utilize quality sources. Research was a skill I hadn't focused on developing, especially coming from a conservatory environment where academic writing and research wasn't emphasized. I was able

to find quality sources from pedagoges like Bozeman, Sundberg, and Titze, who gave detailed analysis of these concepts. With reading selections from Bozeman's book, I learned why I made those initial discoveries about why the [i] vowel sounds and feels brighter (2013). With discovering the "voice science works" website, Irene and Harris gave an easily understandable explanation for formants. This is where Gibb's next step of analysis comes into my process (1988). I recognized gaps in my knowledge about vocal anatomy and then continued my research around that as well. I discovered how vowels and diction relate to aspects of singing in different genres of vocal music, and I also learned about formants and resonance. In continuing to analyze I learned why those things were intertwined then sought out how to apply it based upon what I knew previously with a more informed perspective.

As I was working on this paper in my formative assignment, I began to apply these things I was learning to my students. I also researched methods by teachers such as Lisa Popeil and Kari Ragan, and found their methods of teaching various genres to align with the findings of Sundberg, Miller, Bozeman, and Titze, concluding that my evidence was concrete. I was able to move onto the next step in Gibb's reflective cycle and draw conclusions, (1988) especially after reading Laterimo and Popeil's book, *Sing Anything* (see appendix).

The last step in Gibb's model is to reflect upon my actions and come up with a new plan. As I created my personal development plan, I thought about my goals as an educator and performer, and the steps I needed to take in order to improve. By creating an action plan with measurable goals, I was able to continue the cycle of learning in action and reflecting on the action I took.

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Appendix I: Personal Development Plan

Overall Goal	Development	Achievement Plan	Resources	Success	Target date
Be able to teach and perform in a variety of vocal genres	seamlessly sing classically and CCM music in the same performance, and teach students to do the same	Take voice lessons once a month of each genre (one classical one CCM)	Feedback from teachers and coaches	Perform and tour my classical recital/CCM style EP release show	March 2024
		Gather exercises from instagram teaching profiles like Kurt Wolf and other voice teachers	Feedback from social media	Answer students questions about how to switch between genres	
		Listen critically to various artists of different genres	Feedback from performances at open mics and shows	Have a deep understanding of how to adjust for different styles and genres	
		Outline different aspects regarding style such as breathing, vowels, and resonance and mark differences	All lectures on VSC platform under the cross training topic- watch one per month.		
		Create a list of repertoire in varying genres to explore for myself and students			

Appendix II: Application of Vowel Modification according to Lisa Popeil and Gina Laterimo

Vowel modification is typically used to help singers reposition their anatomy to sing vowels in higher parts of their range (O'Connor, 2022). Shirlee Emmons notes, "With the aid of vowel modification singers will have fewer intonation problems, better resonance across their ranges, more carrying power, easier production of forte and piano, clearer diction, and... a much better blend" (n.d.) This would mean vowel modification can also be used to help singers achieve different sounds for different genres as well. As singers attempt to discover varying resonance sensations, they can use different vowels to discover where sensations should be. As previously discussed, different vowels alter the space and therefore frequency of each formant. Lisa Popeil and Gina Latimerlo outline how to achieve different sounds in their book *Sing Anything*. They instruct singers to sing on a different vowel for each genre and make specific changes to the larynx, pharynx, tongue, jaw, and soft palate. While students at first may struggle to be distinctly aware of a high or low positioned larynx, wide or narrow pharynx, high or low tongue, they can create those positions with vowel sounds they are already familiar with. Students can use the shape of these vowels as a template to modify other vowels they sing so they can use appropriate diction and resonance for each genre.

For Classical singing they instruct the singer to vocalize on an [o] vowel, which is round and has a low larynx/wide pharynx. The space in the mouth promotes a very lifted soft palate and a rounding of the lips in order to keep the "scuro" in the chiaroscuro. This vowel is a perfect template for keeping the sound typical of classical singing. My teacher will constantly remind me to round my vowels and keep my lips from spreading, and keeping a lifted soft palate especially after I have been singing CCM songs and am switching back to classical repertoire. By giving all my vowels a sense of roundness, depth and height through the [o] vowel, this classical sound can be achieved.

For Belt Musical Theatre styles, the authors direct the singer to create an [ae] vowel with a half lifted palate. The difference between [a] and [ae] is a widening of the mouth and lifting of the tongue, creating a brighter sound. The brightness of the [ae] and the nasality of the half lowered palate will give the twang resonance desired by belt singers. In order to achieve that color for the rest of the vowels in this style of singing, widening the mouth into a smile and showing the teeth which Popeil and Latirmerlo call the Molar Mouth. Even rounder vowels such as [u] sung with a wider mouth will create that brassy belt quality characteristic to the genre. Kate Cardon also agrees and suggests singers use "Bright vowels and more nasality than allowed than other styles" (2021).

For Pop singing Popeil and Latimerlo suggest the [i] vowel, with slightly lifted soft palate to get some nasality, and some space. This brighter vowel that resonates in the front of the mouth gives a more speech-like brightness to the sound. When singers use different vowels in pop singing, even darker ones, such as [a] raising the tongue a bit in the same direction of the [i] vowel will give a more pop quality to the diction. I used the lifting of the back of the tongue in my “crossover” journey to achieve a more speechlike sound. However, it is useful to refrain from using excessive “molar mouth” used in musical theater that creates a very bright and brassy sound, as opposed to the lyric forward speech sound of pop music.

Another genre Popeil and Latimerlo cover is country vocal music. They direct the reader to sing a [u] vowel with a very dropped palate for nasality. The relaxed roundness of the [u] vowel can be applied to other vowels, and since [u] is a back/closed vowel with a higher tongue, singers don’t need to extend their jaws open as much as other genres. The authors confirm this by noting the jaw action will be more limited than even the speech-like quality of pop singing. The fully dropped palate throughout will give the nasal ring that is characteristic of Southern American dialect. Applying these aspects of the nasal [u] vowel to other vowels will assist in singing in country music.

Jazz singing requires an [ʊ] vowel, which is characterized as being a vowel towards the back of the mouth, and not as high of a tongue position as an [u]. The authors note that the jaw position of the [ʊ] vowel will be more relaxed, so keeping a relaxed roundness to other vowels will help color the diction properly. The vowel tends to sit further back in the mouth, so modifying other vowels to sit further back, especially ones that tend to sit in the front like [i] and [ae] will help shape the sound characteristic of jazz. There is varying lift of the palate which can result in varying degrees of nasality. Jazz tends to play with extremes of nasality from bright to dark to color the diction as stylistically appropriate.

RnB requires a darker sound similar to classical music without the roundness of the mouth shape. Popeil and Latimerlo suggest the reader to sing on an [a] vowel, which is an open and back vowel. Modifying other vowels by keeping a more neutral mouth shape and relaxed tongue similar to the [a] vowel will help achieve the darker sultry sounds associated with RnB. Vowels sung in this style also have a moderately dropped palate resulting in more nasality to balance the darker vowel, giving emphasis to lyrical content, yet still emoting a soulful rich sound.

Popeil and Latimerlo instruct the singer to vocalize on an [e] vowel with a slightly dropped palate to emulate a rock sound. The [e] vowel is characterized as a front vowel sitting

between an open and closed mouth shape. The brightness characterized by the [e] vowel can be applied to other vowels that tend to sit further back. One can instruct their student to sing an [e] and an [o] vowel then challenge them to keep the brightness of the [e] vowel in the [o]. Keeping a slightly dropped palate will create more nasal brightness to add a gritty vocal sound characteristic of rock singing.