Female Voice Classification and the Choral Director

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Abstract

Voice classification presents a paradox to the choral director. In choral singing, conductors need to be able to create a well-balanced ensemble into equal sounding sections. However, students (and teachers) tend to be in a hurry to classify the voice. It should be remembered that the young voice is constantly changing and growing. According to the vocal pedagogue Clifton Ware, most singers do not reach full vocal maturity until their mid-twenties, larger voices until their mid-thirties. Therefore, singers and choral conductors should not be rushed when making a decision about permanent vocal classification.

The focus of this paper deals with the young female voice. This paper serves several purposes: to define vocal misclassification and its dangers; to lead the singer and choral director to healthy voice use through the choral ensemble; to present solutions and outcomes to eliminate the problem of vocal misclassification. Topics to be discussed include common occurrences of inappropriate voice use in choral ensembles (that is, females asked to sing outside of their voice category to fill out the other choral sections and female voices that are incorrectly classified); the changing female voice (ages 9 to 15) (that is, how choral conductors safely traverse these students through their voice change); the college singer in regards to the young voice; and possible solutions and outcomes to eliminate the problem of vocal misclassification (that is, frequent voice testing, making vocal decisions on tessitura not range, and listening to student's concerns about their own voices). Through presentation of this paper, choral conductors will be educated about vocal misclassification and preventing damage to young female voices.

Introduction

Voice classification presents a paradox to the choral director (McKinney, 1982, p. 111). In preparing choral ensembles, conductors need to be able to create a well-balanced ensemble into equal sounding sections. However, students (and teachers) tend to be in a hurry to classify the voice. It should be remembered that the young voice is constantly changing and growing (Chase & Emmons, 2006, p. 167). According to the vocal pedagogue Clifton Ware, most singers do not reach full vocal maturity until their mid-twenties, larger voices until their mid-thirties (Ware, 1998, pp. 188-189). Therefore, singers and conductors should not be rushed when making a decision about permanent voice classification (Vennard, 1957, p. 43).

Characteristics of Voice Classification

Vocal pedagogues observe several characteristics to aid them in the decision of correctly classifying voice types. Typically, there are five characteristics that are used in voice classification: physical characteristics, timbre, *passaggio* (register transition), tessitura, and range (Ware, 1998, p. 189). It is important to realize that classification is not an exact science and that all characteristics need to be considered when making a decision.

Physical characteristics

Physical characteristics include body size, lung capacity, volume of the resonating tract, laryngeal size, and the length and thickness of the vocal folds at rest (Doscher, 1994, p. 195). Generally, sopranos are thought of as being small in stature with "short, broad vocal folds," and mezzo-sopranos or altos as having large bone structure with "long, narrow vocal folds (Doscher, 1994, p. 195)." Note that these descriptions are only generalizations; physical characteristics do not always match up with voice classification.

Timbre

Timbre is the tone quality or colour of the voice, which is shaped by a singer's physical characteristics (Doscher, 1994, p. 125). Timbre is that quality that makes an individual's voice sound unique and distinguishes one voice from another. One should be careful not to use timbre as the sole reason for vocal classification because singers are able to modify their timbre based on several factors: by the change of the vowel used and where the vowel is placed in the mouth, articulation of consonants, change of dynamics, and use of emotion to bring across the meaning of the text (Cleveland, 1993).

Passaggio (Register transition)

The *passaggio* (register transition) is the area between registers where laryngeal changes need to take place, such as changes in length and thickness of the vocal folds (Ware, 1998, pp. 121-122). Each register utilizes a particular part of the vocal folds to produce sound. Vocal pedagogues, such as Joan Wall, Barbara Doscher, William Vennard, and Manuel Garcia II, cannot agree upon a definition of vocal registration. Some pedagogues feel a singer has only two registers (upper and lower – Frisell; heavy and light mechanism – Vennard), whereas others feel there are upwards of four or five registers (chest, middle, head, and whistle – Wall). The most common register theory is defined as chest, mixed, and head voice (Ware, 1998, pp. 121-122).

The *passaggio*, the Italian term for register transition, is where change in the vocal folds from one register to another occurs. In the "three vocal registers" theory, there would be two *passaggi* or transitions: "*primo passaggio*" between chest and middle register and "second *passaggio*" between middle and head register. The pivotal notes between *passaggi* differ depending on voice type; they normally occur between d and g (an octave apart) (Ware, 1998, pp. 121-122).

Tessitura

Tessitura is "the comfortable pitch level a singer can sustain for a prolonged period without obvious strain (Ware, 1998, pp. 121-122)." Tessitura and *passaggio* are often grouped together because a singer's tessitura depends on her voice type. The tessitura for an alto is different than that of a soprano. It is usually a range of a fourth or fifth. Many pedagogues believe tessitura is the most viable way of classifying voices. If the singer is physically comfortable with the tessitura she is singing, then she is most likely properly classified (Doscher, 1994, p. 197).

Range

A singer's range encompasses all of the pitches a singer can negotiate comfortably in her voice (Ware, 1998, p. 190). Many pedagogues, including Doscher, Ware, and Young, believe range is the least reliable method of classifying voices. There are three reasons why range is not the best way to classify voices: First, many young singers are not able to easily and immediately access their head voice (Doscher, 1994, p. 197); secondly, "tensions of the throat caused either by pushing the breath or raising or lowering the larynx…can hinder a voice from finding its true range (Gollobin & White, 1978);" and lastly, a singer's full range will not develop until full maturity is reached, typically not until the early to mid-twenties (Ware, 1998, p. 191). Nonetheless, it is the range at the time of vocal classification that helps determine placement in an ensemble. Because the vocal range expands and shifts as a result of continued training and development, it is incumbent upon the conductor to check vocal range regularly.

Voice Misclassification

Both the individual singer and choral ensemble benefit greatly from careful classification of individual voices. Unfortunately, voice misclassification commonly occurs in choral situations. There are many dangers in voice misclassification. According to McKinney (1982), "misclassification can rob a voice of tonal beauty and freedom of production, can cause endless frustration and disappointment, can shorten a singing career, and can cause vocal damage of varying degrees of permanence (p. 111)." Unfortunately, many of the dangers of misclassification and singing outside of one's appropriate range are not immediate. Young voices in early adulthood are quite resilient and the damage may not be noticed until months or years later (McKinney, 1982, p. 121).

Voice misclassification occurs often because of several factors. First, singing in choir is often the student's first experience with trained singing. Because many public schools have had to eliminate music programs in their elementary and middle schools, students are lucky if they are able to participate in choir when they enter high school. Second, the type of contemporary music that adolescents are listening to has changed within the last 30 to 40 years. In the past, pop music and musical theatre was based on the classically trained singing voice. Even if adolescents did not have opportunities to sing in choirs, the music they were listening to promoted healthy vocal technique. Currently, the majority of pop music, musical theatre, and contemporary church music is based on a belt vocal style which, when not produced correctly with proper vocal technique, can be very dangerous to the health of a young singer's voice. Lastly, a great deal of choral music is not ideally suited for the young singer. There are not many true basses and altos, especially at the young age of high school and university students. Many choral works have unreasonable tessiture, either extremely high for sopranos and tenors or extremely low for altos and basses. The traditional mixed choral works, which tend to ignore the middle voices, are usually written for SATB voicings (McKinney, 1982, p. 113). Fortunately, many composers have, in the past 20 to 30 years, produced choral works and arrangements specifically designed for young adolescent ensembles.

Common Occurrences of Inappropriate Voice Use in Choral Ensembles

Voice misclassification is far too common with young female singers. There are two common occurrences of inappropriate voice use in choral ensembles where the singers may not be singing in their appropriate voice classification: 1) Female voices may be incorrectly classified because not all characteristics of voice classification have been taken into consideration. Consequently, 2) females are asked to sing outside of their voice category to create a balance among choral sections.

There is a universal reality of having more sopranos and fewer altos, especially in the high school and university choir (Chase & Emmons, 2006, p. 166). A possible reason for this trend could be the perceived reaction to encourage a child who has a high, "angelic" voice to sing in choirs, while a child with a lower voice might not be encouraged to sing. This reality of having more sopranos and fewer altos can be a challenge to the choral conductor. To create a balanced choral sound, sopranos and mezzo-sopranos are frequently assigned to the alto section. These singers are usually the ones who are good musicians, can sight read, hold their own part, sing low notes, and may have a darker timbre than the traditional lyric soprano (Busch, 1984, p. 241). The problem this presents is that the singers are required to perform music that is not in their comfortable range, which can lead to unhealthy vocal habits.

Another common occurrence in the choral environment is the assignment of low altos to fill a void in the tenor section. Altos should not be assigned permanently to the tenor section because the range of the tenor part cause women to utilize only their full chest voice instead of the mix they use when singing alto. Singing the tenor part does not give them an opportunity to use and develop their head register. If on occasion the tenor section needs support on higher passages, it is fine as long as it is not a regular occurrence (Sataloff & Smith, 2003).

Many young sopranos are misclassified as mezzo-sopranos. These sopranos tend to have a bigger voice, darker timbre, and may not be able to produce high notes because they have not determined how to traverse into the head register (Christy, 1961, p. 154). Many mezzo-sopranos are misclassified as altos for the same reasons. It should be remembered that the true alto is an extremely rare voice type. It is very dangerous to allow a true mezzo-soprano (or soprano) to study as an alto and only sing in that half of her range. It should also be remembered that mezzo-sopranos are part of the soprano family (Miller, 1996, pp. 178-179). Therefore these mezzo-sopranos should not be trapped singing only alto once their voices develop. Choral directors should remember it is important to allow them to sing soprano or soprano II, when the tessitura allows it (Gordon, 1989). Unfortunately, these misclassifications persist and many of these singers continue to train into their mid-twenties. Many times, if a singer has been singing in the wrong category for too long, she may never be able to access the full potential of her voice.

The Changing Female Voice (Ages 9 to 15)

Males are not the only ones who go through a voice change in puberty. Females also go through a marked, although less obvious, vocal change during this time. This change can occur anytime between ages 9 and 15 (Huff-Gackle, 1985). In general, females begin puberty earlier than males, and the female voice change settles more quickly than the male voice (Phillips, 2004, p. 112). Characteristics that indicate voice change include: voice cracking, hoarseness, increased breathiness and huskiness in sound, uncomfortable singing or difficulty in phonation, a lowering of the speaking voice, the development of noticeable registers, and a fluctuating tessitura (Brinson, 1996, p. 212).

There is not much information available about the adolescent female voice change (O'Toole, 1998). Most of the research available comes from doctoral dissertations. Since Huff-Gackle is the most actively published researcher on the female adolescent voice, much of the research available about the female voice change uses her work.

Huff-Gackle describes the voice change as occurring in three stages:

Stage 1. Prepubertal

Age:	8-10 (11-13) years
Vocal quality:	Light, "flutelike," singing between upper and lower ranges is achieved with ease
Range:	b-flat to f^2 (octave and a fifth)

Stage 2A. Pubescent/premenarcheal

Age:	11-12 (13) years
Vocal quality:	Breathiness; trouble singing in lower register; volume in middle and upper ranges is difficult to achieve; voice "cracks" are common
Range:	a to g^2 (octave and a seventh)

Stage 2B. Puberty/postmenarcheal

Age:	13-14 (15) years
Vocal quality:	Huskiness or heaviness in the vocal timbre; a five- or six-note range is most comfortable to sing; lower tones of the vocal range are easiest to produce
Range:	a to f^2 (octave and a sixth)

Stage 3. Young adult female/postmenarcheal

Age:	14-15 (16) years
Vocal quality:	Inconsistent sound; voice "cracking" common; breathiness decreases; greater consistency between registers; richer tone; gradual appearance of vibrato; overall increases in volume, resonance, and agility
Range:	a to a^2 (two octaves) (Phillips, 2004)

It is important that these young singers are made aware that the change occurring in their voice at this time is normal and should not embarrass them (Jipson, 1972, pp. 67-68). Huff-Gackle (1985) encourages choir directors working with early adolescent girls to not use the adult classifications of soprano and alto. For the most part, these girls are still sopranos. Huff-Gackle prefers the classification of soprano I and II or treble I and II (Brinson, 1996, p. 194).

Another view of classification is the equal-voice theory. Scholars such as Huff-Gackle and Barresi believe that it is important to use equal-voiced music with children and adolescents (Brinson, 1996, pp. 212-213). When that is not possible, directors should have the singers switch parts regularly during rehearsal, singing soprano on one piece and alto on another. This allows all singers to use their full range and build important ear training and sight singing skills. One should remember to avoid high or low tessiture. The most comfortable tessitura for young females is between the D above middle C to an octave above. The occasional foray to a high F or low B-flat is acceptable (Brinson, 1996, p. 194). These guidelines may change depending on how long the voices have been training. A professional children's chorus may be able to comfortably handle songs with larger ranges compared to the average middle school choir. Young voices should be tested often, especially during the ages of 9 and 15, to determine classification. When

at all possible, one should allow the singers to change voice parts if they need to, and to make sure that vocalization continues to occur throughout the entire vocal range, avoiding strain in the upper and lower portions (Brinson, 1996, p. 358).

The High School Singer

Many singers have their first formal singing experience in the high school choir. Their only vocal technique comes from the choral director, not through private vocal lessons. Students who have not had the opportunity to develop their singing voices in children and middle school choirs may face some of the same challenges when they join the high school choir. The role of the choir for the beginning singer includes voice building, music reading, and ear training. Having the opportunity to switch voice parts can aid in the development of all these skills.

The College Singer

What is thought of when the young or changing voice becomes a topic of conversation? Most people associate the issue with a discussion of the vocal development of the middle school or high school student, but they forget that voices are still developing at the university level, especially in undergraduates. At the university level, where many choral students are studying private voice, it is important for the choral director to check with the voice instructor when considering voice part assignment. This is especially important when the conductor needs to place the middle voices or needs to create a balance in the alto section. The private instructors will be able to suggest whether a soprano would like to work on her lower range or if a mezzo-soprano is trying to extend her head register (Apfelstadt, Robinson, & Taylor, 2003). In the case of mezzo-sopranos who could sing either soprano or alto, a possible solution is to rotate this small group of singers between songs if the tessitura makes it possible.

What Can Be Done?

What can be done to promote healthy and appropriate classification of female voices in the choral setting? Test voices often, at least each semester, grading period, or after a concert. Voices change, sometimes quickly, so it is important to test your singers' ranges and comfortable tessiture. An effective way to test comfortable tessitura is to vocalize the students using a song instead of a standard vocalise. A song that works well is "America" or "God Save the Queen." The melody moves step-wise and encompasses a fifth. When testing her voice, have her sing in several keys, paying close attention to where the voice sounds most comfortable with the least amount of strain. If the comfortable tessitura is higher, then she is likely a soprano, if the comfortable tessitura is lower then she is likely an alto.

If a student expresses concern about her vocal health and stamina, the director should re-test and, if necessary, move the singer to a different section in the choir. If a singer has the range to sing either soprano or alto, she should sing in the section where the tessitura is most comfortable (Gordon, 1989, pp. 153-154). This might change depending on the song. One should listen to the students. For this reason one should test their voices regularly and move them into an appropriate section if necessary (Jipson, 1972, p. 64).

Sometimes allowing singers to sing another voice part can be helpful. For example, a soprano who is working on the lower part of her voice, an alto or mezzo-soprano that needs to work on the upper part of her voice, or a soprano who would like to improve her skills in singing harmony (Apfelstadt, Robinson, & Taylor, 2003). While occasionally allowing singers to sing outside of their proper voice classification is permissible and frequently helpful in vocal development, it should remain occasional so it does not harm the singer's voice.

It is important to regularly vocalize the students throughout their entire range. Do not perform specific warm-ups or sing in specific keys just for one particular section; allow all sections to work out their entire vocal range. Sirens (vocal slides that encompass the entire range) are excellent vocal warm-ups to expand a singer's range. Singers should slide up to their highest possible note and slide down to their lowest possible note. When performed on a daily basis, it is surprising how much the vocal range will expand and sound freer.

It can also be extremely beneficial to experiment with having different sections sing other parts if the tessitura allows it; a canon or round can be used; or letting people sing all parts when reading and rehearsing a section. The singers will not necessarily experience a change in vocal range and/or quality from this experience, but this will allow them to use a different portion of their range and give them a better understanding of how everyone fits into the harmony. One should allow mezzo-sopranos to sing either alto I or soprano II. This can be accomplished by having singers rotate to have the opportunity to sing another part (Chase & Emmons, 2006, p. 166).

Finally, a conductor should select repertoire to develop their students' changing vocal abilities. As difficult as that might be, the students' vocal health is most important (Chase & Emmons, 2006, p. 315). Within a semester or concert period, each student should have the opportunity to sing literature that encompasses a variety of ranges, tessiture, dynamic levels, and dramatic characters. When conductors choose literature with these principles in mind, the singer has the opportunity to experience optimal vocal development.

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