Baritone or Falsetto?
Male Educators' Vocal Modeling in the Elementary Classroom

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Background

Elementary music educators teach their students songs to engage them in active learning, to share new musical concepts, and for the sheer enjoyment of singing. Because it allows students to learn about music by actively participating in the musical experience, singing is an effective tool in the elementary setting. Singing is also an excellent skill because, unlike instruments, it is accessible to all students as they can use their voice to sing anywhere. This skill also enhances other music experiences, as supported by the motto instrumentalists often use, "if you can sing it, you can play it." Henry (2001) argues that lack of vocal development in the elementary level can lead to disinterest in music altogether as it "denies them access to more complex and motivational song literature" (p. 4).

It is important for students to learn how to use their voices efficiently, without strain, and to sing with pitch accuracy. One of the best ways that music educators can teach good singing technique in their classrooms is through good vocal modeling.

Vocal modeling occurs when a teacher models a song in his or her own voice for students to hear. In response, students are invited to sing back what they hear with pitch accuracy and good vocal technique, not shouting or unpitched chanting. Vocal modeling can work well because it allows the educator to set the pace of learning a song. If a class needs more time to learn a new song, then vocal modeling allows for a slower pace with frequent repetition.

While vocal modeling is essential to allow children to learn valuable musical skills, male music educators are faced with a problem when determining which vocal register to use. The two male vocal registers that are discussed in this research are chest voice and falsetto voice. In his study of male vocal types, Martin (2010) describes the chest voice as a label that is derived

"from the sensations of the singer while phonating in that portion of the voice… [a] vibration in the upper chest cavity" (p. 12). He describes the label "falsetto" as being derived from the resulting "weak, breathy sound" produced by passing air through open vocal cords to create a pitch. Male music educators may use the falsetto voice to reach notes an octave or more above what is normally sung in the chest voice. This allows a male to sing in the same pitch range as the female or child's vocal register.

The falsetto voice, however, often places strain on a male's vocal chords because it is a physiologically inefficient process, as a large amount of air is forced to move quickly through the vocal folds to produce a light sound. Males modeling in their falsetto voice have not found universal favor with investigators. Phillips (1992) maligned the use of falsetto saying, "The falsetto voice is a 'false' voice, in that it is a product of strained vocal technique in which the larynx rises and cuts out the laryngeal resonator, resulting in a weak and unsupported sound" (p. 50). Gregor (2014) agreed that modeling in falsetto increases vocal fatigue and strain, is not sustainable over a long period of time, and does not give a healthy vocal model for students (p. 13). He interviewed five male elementary music educators, in various stages of their careers, to determine if they used falsetto in their classroom. Three of them responded with an emphatic 'no', and two shared that they only use falsetto with kindergarten through second grade and as little as possible.

While vocal modeling in falsetto is not endorsed by these singing experts, other investigators have conducted studies to determine if singing in the chest voice or lower baritone octave confused children and resulted in less accurate singing. Michaud (2014) tested the effects of teaching children in falsetto versus the baritone voice when modeling. He tested two groups of kindergarteners for 20 days, using only his baritone voice with one group and only the falsetto with the other. He found the vocal register used by the instructor made no significant difference in a younger child's ability to develop pitch-matching abilities. He admitted, however, that this finding did not "give a complete picture of the effects of baritone and falsetto vocal modeling on

kindergarten children's pitch-matching abilities" due to the short time frame in his study (p. 123).

Small and McCachern (1983) found similar results in their pitch-matching study of 55 first graders. All students were given a pre-test, with either a male baritone vocal model or a female soprano vocal model, in which they received a vocal warm-up through call-and-response and then echoed do-re-mi patterns to determine their ability to match pitch. The students who were able to match pitch were eliminated from the study, while those who were not able to match pitch were assigned to work with either a female vocal coach, a male vocal coach, or no coach for five days prior to a post-test. While no significant difference was found between the lower baritone male and the soprano female vocal modeling in children's ability to match pitch, the short five-day time frame should also be noted.

Other investigators found that the higher falsetto vocal model did, in fact, contribute to greater vocal accuracy than the lower male vocal model. Price, Yarbrough, Jones, and Moore (1994) explored pitch accuracy of 216 inaccurate singers in the kindergarten through eighth grade in response to a bass and a falsetto model, as well as sine wave models in the same octaves. Girls responded more accurately to the falsetto voice and boys responded more accurately to the bass voice. Yarbrough, Morrison, Karrick, and Dunn (1995) had similar results and found that all grade levels (kindergarten through seven), with the exception of eighth grade, responded more accurately to a higher octave or falsetto models than to lower bass models when tested.

Montgomery (1988) studied two third-grade classes for 12 weeks, one being taught with a normal male singing voice and the other with falsetto. When tested at the end of the study, third graders echoed specific test patterns more accurately when the teacher modeled in his falsetto voice than when he modeled in his normal singing voice.

Hendley and Persellin (1996) went a step further in their research and used a falsetto model in their eight-week study with 152 first, third and fifth grade students in two classes at each grade level. All six classes worked with the same male teacher, a skilled counter-tenor, for 8

weeks. One of the classes at each grade level experienced vocal modeling in the falsetto range and the other class in each grade experienced with the modeling in the tenor range. Students in all classes with the falsetto modeling were able to improve their pitch accuracy. However, the vocal accuracy of the younger first and third grade students in classes taught with tenor modeling was significantly lower than their peers in classes taught with falsetto modeling. No significant difference was found in vocal accuracy between the older fifth grade classes with tenor or falsetto modeling.

Several studies have examined teaching vocal accuracy with a variety of soprano and baritone models. Green (1990) studied 282 elementary students from first through sixth grades. Over a three-week period, she tested students' pitch accuracy of a minor third when listening to a female soprano model, a male tenor model, and a nine-year-old child model. She found that the highest number of accurate responses came from listening to a child vocal model singing in the soprano range, followed by a female model, and then a male model singing in the lower baritone range.

Yarbrough, Green, Benson and Bowers (1991) then extended this study and found that when using vocal modeling for teaching children to match pitch, female voices were easier for children to hear and replicate. Their research was conducted with students from first through eighth grades. The students were asked to match a minor third interval sung by a male baritone vocal model as well as a female vocal model. Students in all grade levels had significantly higher success in matching pitch with the higher female voice than the lower baritone model. Students found the female voice, which has a similar timbre and range to a child's voice, to be easier to match than the lower baritone voice with a different timbre. While falsetto models were not used in these last studies (Green, 1990; Yarbrough et al., 1991), it should be noted that students found the higher soprano model easier to replicate than the lower baritone model.

In their compilation of recent research and best practices on teaching children to sing in tune, editors Runfola and Rutkowski (2010) advocated that male educators should model both speaking and singing using a "light" normal chest voice. They also argue that if students

understood their own voices then they would "not have a problem singing in the appropriate register with a male model an octave lower" (p. 15).

Thus, it can be seen that findings from the literature are mixed. While some investigators found that young children sang less accurately when taught with a male teacher using his lower baritone voice, others have found that young children do not find the lower baritone voice to be confusing and thus, sing accurately. Still others concluded that younger students found the baritone voice confusing, but older students did not.

The purpose of our study was to determine how male elementary music educators in a large metropolitan area modeled singing when teaching young children (kindergarten through second grade) and when teaching older children (third through fifth grades). We also sought to investigate alternative teaching strategies used by male elementary music educators to aid in the development of vocal accuracy.

Method

To determine answers to these questions about male vocal modeling in the elementary classroom, a pilot survey was conducted with male elementary music educators. Based on feedback from this pilot study, the survey instrument was revised and then electronically mailed to 47 male music educators in a large metropolitan city. A follow up reminder was electronically mailed ten days later. Of the 47 surveys emailed, 33 surveys were completed (70%). Responders varied in skill areas, education, and school size and demographics. This survey was comprised of questions requiring a response on a five-level Likert-type scale as well as open-ended questions about vocal modeling preferences and teaching strategies.

Results and Discussion

Of the 33 responders, 82% agreed or strongly agreed that every student should sing with accurate pitch, and only two responders (6%) disagreed or strongly disagreed. From these results it is clear that a majority of these male music educators hold accurate singing to be an important skill.

When the teachers were asked if they modeled using falsetto for their kindergarten through second grade students 61% responded with either agree or strongly agree while 30% responded with disagree or strongly disagree. Some respondents stated that they were not able to use their falsetto voice. Others commented using the baritone/tenor voice was the "best vocal model for good tone production". Still others wrote that they used falsetto in early lessons and then transitioned to baritone voice as they year went on. Finally, some men responded that they used falsetto all of the time.

One educator who strongly agreed shared, "I always use my falsetto. The only times (very rare) that I don't use falsetto are when I am performing something that I don't expect them to perform." Another stated, "If I sing in my normal range, they sing in a low chest voice." On the other hand, an educator who disagreed with using falsetto with kindergarten through second grade stated:

> I sing in my own register the majority of the time and teach kids to sing up the octave. I sing in falsetto only as needed. Singing in falsetto all the time strains my voice and teaches strained singing. It is also emasculating to sing constantly in falsetto. Singing with my own voice helps me model better tone. The falsetto is useful at times but it isn't what I use most of the time.

When asked about using the falsetto voice to model for third through fifth grades there was less agreement with 45% agreeing or strongly agreeing and 42% disagreeing or strongly disagreeing. Those who disagreed commented that their students should be able to displace the octave by the time they are in the upper elementary grades. An educator in disagreement stated, "My older students usually don't need the extra falsetto. They already are able to sing in tune in their register because I worked/taught them when they were younger." Another stated that "I use the falsetto register only to teach kids about displacing the octave and to teach head voice. Not for teaching new pitches to a song." Those agreeing commented that they use falsetto to get students started at the beginning of the year or giving an initial pitch. One educator who agreed with this statement commented, "I continue to use falsetto for older students, but I also add recorder and piano to give examples for these students."

With regard to singing on pitch, 82% agreed or strongly agreed that there were numerous ways to effectively teach students to model and teach this skill. An educator described his vocal modeling process, stating:

> I teach them that I sing in a different register and I model using the falsetto where they need to sing. After that I only use the falsetto as needed. I always give students a rough percentage of how accurate their singing is in terms of pitch. After they sing, I'll say (50%, 80% etc.). This improves their focus on motivation to listen closely and sing the correct pitches. Also I [use] hand motions and Curwen hand signs to show pitch when teaching songs.

Aside from using falsetto, these educators suggested vocal play, solfège exercises, slide whistles and other instruments in the child's range, good vocal models from videos, and many other strategies.

In all, the data indicated that there was a diversity of modeling strategies when singing for and with their elementary students to help with pitch accuracy. Respondents in this study used a variety of teaching strategies and tools to teach elementary music classes. Such tools included alto recorder, piano, slide whistles, stringed instruments, and using other students and recordings as vocal models. By using a variety of these teaching tools, male educators helped support students' ability to sing without relying completely on vocal modeling.

Singing in falsetto for students may help many to learn pitch matching, but it may also create tension and strain in the educator's voice that is not a good model of vocal technique. The reverse holds true for the chest voice. It may be a good model of a healthy singing voice, but requires students to match pitch in a different octave from what they hear.

While Hendley and Persellin (1996) found that younger students sang more accurately with the falsetto vocal model after eight weeks, it should be noted that the teacher in that study was a skilled counter tenor who sang with little vocal fatigue in his falsetto voice. Many male teachers may not sing in falsetto as easily nor without strain or sacrificing tonal quality.

In conclusion, male elementary music educators are encouraged to be aware of the advantages and disadvantages of both vocal registers and to study recent research on this topic. In their teaching, they will need to sing comfortably as well monitor any vocal strain when modeling with

falsetto. Younger children in particular may sing more accurately with a pitch model in their own range, so male educators are encouraged to be especially sensitive to that need. All teachers need to listen carefully to the pitch-matching of their students and apply a variety of teaching strategies to engage young singers as they develop greater vocal accuracy.

Keywords

singing, children, elementary music, vocal modeling, falsetto

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