

Vocal Health in Teacher Training Programs

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Introduction

In the fall semester of their senior year, students at Luther College take their final methods courses. In addition to band, choral and orchestral methods, general music methods is offered at this time. This course, which runs for fourteen weeks, includes a practicum in a local elementary classroom. While the course must cover numerous important topics—including Orff, Kodály, lesson planning, curricular design, review of resources—instruction on how to care for one's voice when immersed in teaching is a vital component of teacher education; therefore, it is included in the curriculum.

In a weeklong unit, the Luther students are asked to read, write, reflect and teach about vocal health. It is my hope that this intense focus on the material will engage students in the topic and ultimately influence change in their behaviours. If students learn how to care for their voices before they enter their own classrooms, they will be learning to teach in a way that promotes conservative voice use and healthy vocal behaviours. Attention to their general health practices, including diet, hydration and sleep patterns, as related to their vocal health also promotes a healthy lifestyle. As they develop their teaching skills, they learn how to live and teach in a way that will "save their voices."

A Focus on Vocal Health

It is often the case that information on vocal health and voice problems associated with the profession of teaching is new to the students; they have not been aware of the significance of the problem, nor do they seem to have an understanding of the personal and professional costs associated with debilitating vocal problems. For this reason, support is provided from the literature for the study of vocal health and teachers. Students are exposed to the following information as it relates to the study of teachers in general and to the study of music teachers specifically.

A vast number of studies have shown that all teachers (general education as well as music) have the potential to suffer from voice problems as a result of their professional voice use (see Mattiske, Oates & Greenwood, 1998; Sapir, Keidar & Mathers-Schmidt, 1993; Smith et al., 1998). Exposure to general information related to the occupation of teaching sets the tone for the more intense relationship of music teaching and voice problems.

Music teachers are especially susceptible to experiencing voice problems (Mattiske et al., 1998). According to Radionoff, "The music educator is one of the most 'at-risk' vocal professionals" (in Solberg & Duax, 2000, p. 3). In their survey study, 63.6% of music teachers reported currently experiencing voice problems, and 88.6% reported having had a voice problem in the past (p. 4). Music teachers of all subjects and at all levels can be at risk. Solberg & Duax (2000) also reported that music teachers are using their voices to either speak or sing for 90% of their teaching time, leaving limited time throughout the day for vocal rest. While general education teachers have preparatory periods when their students go to music or art, the music teacher is often teaching several classes in a row without a break. The special nature of music teaching leads to increased demands on the voice. Once students are exposed to this information, they can become educated on the effects voice problems could have on them personally and professionally.

Effects of Voice Problems: Teachers and Students

Clearly, voice problems can affect the function and sound of the voice, work efficiency and performance, and a teacher's psychological well-being. There are also economic

consequences when teachers miss work or are unable to perform assigned duties. Student performance and behaviour can also be negatively affected when a teacher's ability to communicate information and manage a classroom is hindered by voice problems.

Teachers

This discussion begins with problems that impair the way teachers use their voices. According to Colton and Casper (1990) there are eight "primary symptoms" of voice disturbance. These symptoms are "hoarseness, vocal fatigue, breathiness, reduced phonational range, aphonia, pitch breaks or inappropriately high pitch, strain/struggle voice, and tremor" (taken from Johnson, 1994, p. 159-160).

Along with discussions of the physical symptoms, students are introduced to basic vocal physiology so that they develop an understanding of how the voice problem manifests itself in the larynx. For example, Thurman, Hansen & Theimer (2001) state "inflammation (swelling, enlarging) or dehydration (stiffening) of the vocal fold non-muscle tissues produces air wastage (breathy or hoarse voice quality), loss of upper range, gain in low range, sluggishness of response to pitch changes and faster rhythms, and other limitations" (p. 53). This type of description allows students to make connections between the symptom they might experience and its source. It is important for students to be able to recognize symptoms as well as be familiar with important terminology and concepts related to vocal function.

Beyond the function and sound of the voice, voice problems often prevent a teacher from communicating with students in the most productive ways. For example, a teacher with a dysfunctional voice may experience decreased effectiveness in classroom management and in developing working relationships with students (Mattiske et al., 1998). Sapir, Atias & Shahar (1990) found that voice problems can severely impair a teacher's "performance and work efficiency" (p. 991). When voice problems are significant, teachers are sometimes forced to miss work for vocal rest or to seek medical attention (Yiu, 2002).

Voice problems are often a great source of stress for teachers and can adversely affect their "psychological well-being" (Sapir, Keidar & Mathers-Schmidt, 1993, p. 183). When a teacher's ability to perform his/her job is threatened, it may be personally devastating. Lifestyle changes resulting from a dysfunctional voice are often necessary. For example, if speaking for long periods of time is causing vocal fatigue, an individual may have to limit social interaction in noisy environments such as restaurants or bars. Another example would be a parent who normally attends a child's sporting event; this individual would have to be cautious of cheering or yelling. In a study by Smith et al. (1996), teachers' interactions, even with family and friends, were influenced negatively by voice problems. For teachers, voice problems can have a widespread impact, including "serious personal, emotional and economic consequences" (Mattiske, Oates & Greenwood, 1998, p. 490).

Students

The quality of student performance and behaviour is of concern to anyone involved in education; an individual teacher's voice problem can affect students in negative ways. The level of background noise is often an issue in schools; a teacher working in a noisy classroom must raise the volume of his/her voice to compete with background noise caused by heating vents, fluorescent lighting, or placement next to a loud space. For example, some music teachers teach in a music wing. While this can make for a more cohesive department, it often results in high volume within a controlled space. These areas can be quite noisy with large bands rehearsing at the same time as general music classes, or private lessons. Anderson (2001) states that when students are forced to work in noisy conditions, there is a significant difference in their performance and behaviour than in quiet conditions. As "children's restlessness, activity levels, and self-generated noise increase," so does the overall stress level of the classroom (Anderson, 2001, p. 78). In this type of environment, a voice problem affects both the delivery and the understanding of content. Thus, educational communities are stronger when their teachers are able to communicate capably.

Support for Education as a Preventative Measure

There is much evidence that supports including information on vocal health in teacher training programs. While the content is not universally prescribed, much of the literature argues for education as a way to prevent problems from occurring. A study by Yiu (2002) concluded, "An educational approach could be taken as the first line of preventative measure for people who engage in occupations that have a high demand on voice use" (p. 223). Bistrizki and Frank (1981) also provide evidence that voice problems can be significantly minimized or prevented with education on vocal health and hygiene (in Sapir, Atias & Shahar, 1990, p. 991). Education in this area is important when part of the teacher training process; however, it is most effective if there is ongoing support throughout a teacher's career. Administrators and school districts should consider this kind of continuing education a necessary part of a teacher's professional development; ongoing training and support could make it possible to "obviate such disorders" (Calas, Verhulst, Lecoq, Dalleas & Seilhean, 1989, p. 397).

It is clear from the literature referred to herein that teaching puts music educators at risk for voice problems. However, it is important to note that this literature is not inclusive of all populations, ideologies and research methodologies. Studies that focus specifically on how ethnicity or culture influence vocal health and voice practices would add valuable insight and perspective to the topic. Research of this kind helps to broaden our understanding of the world. Qualitative studies in which the voice of the participant is represented are also crucial to our understanding of the issues from multiple perspectives. Narrative from interviews and observation of practicing teachers would add a rich dimension from which we can learn.

Teacher Recruitment and Retainment

If we are to prepare music educators who will have the ability and interest in sustaining long careers, we must educate them for the realities of teaching. One of the actualities of teaching music is that it may be damaging to the voice. Education on how to care for the voice should be given to all pre-service teachers, as "the effectiveness of education in this area is evident" (Morton & Watson, 1998, p. 23). Giving students the knowledge and skills to communicate effectively in the classroom includes instruction on vocal health and hygiene. Teacher training programs that emphasize vocal health instruction will aid new teachers in adopting healthy vocal habits.

Vocal Health Curriculum at Luther College

The following information includes the assignments given to pre-service teachers at Luther College on vocal health.

Personal Voice Use and Nutrition Log

Before the start of the unit and before any introductory information is given, students are asked to keep a chart of their vocal usage patterns for a day including periods of vocal rest. In addition, students are asked to log everything they eat and drink for a 24-hour period. They are given one week to do this in so that they can choose when they can devote the attention to the activity. During the week, students share their logs with others and relate their own personal observations and practices to the material being covered.

Required Readings

Readings are put on reserve in the library: Each student must choose two of the four readings, take detailed notes, and write a response to the material. They are told at the outset that they will be presenting the material, along with others who have chosen the same reading, to the rest of the class in a vocally healthy way (conservative voice use).

Mitchell, S. A. (1994). The professional speaking voice. In M.S. Benninger, B.H. Jacobson, & A.F. Johnson (Eds.), *Vocal Art Medicine: The Care and Prevention of Professional Voice Disorders* (pp. 169-176) New York: Thieme Publishers.

This reading is chosen as a further clarification of the concept that as professional voice users, teachers are subject to voice problems. Thus, this material applies to the many different professions who rely on the voice for effective communication. It also defines terminology and concepts, so the language is made accessible for the students.

Sataloff, R. T. (2000). Vocal health. *The Voice Foundation*. Retrieved October 10, 2001 from <http://www.voicefoundation.org/vfSATALOFFVocalHlt.htm>.

This is a comprehensive reference that includes information about a variety of topics related to the health of the voice including anatomy and physiology, medical care, diagnoses and treatment, and a list of resources for further study. It is written in a way that the students can follow, defining terms and concepts used to make the material more accessible to students. The question and answer format provides an effective tool for filling in the gaps for students; thus allowing students to focus on the questions they have about the topic.

Bradshaw, R. (1991). Stress management for teachers: A practical approach. *Clearing House*, 65(1), 43-47.

This article helps the reader to recognize the signs of negative stress and offers many strategies for coping with stress in the workplace and for making lifestyle changes to reduce stress. Stress can lead to a host of health problems including problems with the voice.

Heston, M., Dedrick, C., & Raschke, D. (1996). Job satisfaction and stress among band directors. *Journal of Research in Music Education*, 44(4), 319-327.

This article is used as an example of a research study on music teachers in the schools; thus, the students are exposed to research terminology and methodology. Also, they all seem to have had or know a band director who was burned out; conversely, they can all name band directors who seemed to love teaching and to love teaching band. Again, it is easy to make the connection between stress and its effects on the total health and the vocal health of a music teacher with this article.

Handouts/Other Resources

In addition to the outside readings that the students present to each other, short highlights from other important literature are presented in brief lectures throughout the unit. These include findings from some of the seminal studies on the topic as well as important references. Handouts include brief outlines of desirable and undesirable behaviours related to voice care. These documents are designed in a way to give the students quick access to the information; lists of desirable behaviours could be posted in one's office or home for reference.

Handout #1: Rules for Staying Healthy

- Speaking loudly or frequently may lead to a voice disorder. Recognize when your voice is tired. Consider vocal training if you have to talk or sing loudly, or speak extensively for your vocation or avocation. Vocal endurance, like athletics, requires special skill.
- Hoarseness or breathiness may signal a voice disorder. If either symptom persists for more than two weeks, call a physician or speech-language pathologist.
- Stress can lead to forceful vocal production, resulting in possible tissue damage. Relaxation techniques can improve your voice and allow you to speak more effectively and longer. Try stretching shoulder, neck, and facial muscles periodically; slow deep breaths may also help.

- Caffeine and alcohol dehydrate your vocal folds, which can cause tissue damage. Drink plenty of water to combat their drying effects. For example, for every mug of coffee you ingest, drink at least one 8-ounce glass of water.
 - Some medications lead to dehydration of the vocal folds. Antihistamines, taken for colds or allergies, shrink swollen membranes and reduce saliva and mucous production. These medications lessen the discomforts of the cold, but dry the vocal tissues. If you are taking medications that dehydrate, drink lots of water and other fluids. Try to keep home and working environments at a relative humidity of 40 percent or more.
 - Repeatedly clearing the throat or coughing may damage the vocal fold tissues. Sipping water, swallowing, or sucking on a cough drop may ease the irritation in the throat.
 - Frequent heartburn and a sour taste may mean stomach acids are spilling over into your larynx, which may lead to voice problems. If you experience these symptoms, avoid high-acid foods and late-night eating. Elevate your head with extra pillows or raise the head of the bed.
 - Smoking is the leading cause of laryngeal cancer. At the very least, smoking irritates tissues used for singing and talking. Don't smoke!
- (National Center for Voice and Speech, 1999)

Handout #2: Behaviours to Avoid or Minimize

- Abusive habits such as excessive throat clearing, coughing, hard laughing, and sneezing
- Cheering, yelling, or shouting, particularly in anger
- Speaking or singing with an unnaturally breathy voice quality
- Prolonged singing at either extremes of the range
- Prolonged loud singing
- Singing when breathing is compromised by abdominal cramping, congestion, or pregnancy
- Glottal attacks
- Unnecessary use of decongestants and antihistamines
- Use of alcohol and elective medications before practice or performance
- Smoking *anything!* and secondary smoke
- Exercise which elicits the Valsalva response (weight lifting, upper-body, body building, tennis)
- Practising or performing when the voice is hoarse or raspy or the cords are swollen for whatever reason—the show does *not* have to go on!

Healthy Behaviours

- Warm up everyday; warm down after a performance or full practice session
 - Sing only literature in your correct range
 - Maintain correct pitch and placement in your speaking voice
 - Drink 8 (10-12 oz.) glasses of water daily (room temperature is best)
 - Humidify sleeping and rehearsal areas if necessary
 - Exercise regularly (swimming and walking are particularly good for singers)
- (David, 1996)

Handout #3: Suggested Strategies for Altering Teaching Methods to Prevent Voice Problems

- Warm up the voice before the workday begins
 - Select students to model for other students
 - Incorporate more student-led/centred activities in teaching and learning
 - Utilize electronic accompaniment/recording
 - Work in smaller groups
 - Team teach
 - Alternate and space programs for music students throughout the year
- (Solberg & Duax, 2000)

Teacher as Facilitator and Conservative Voice User

- Implement activities that focus on student-centred learning so that you do not become the focus and font of all knowledge
- Use nonverbal cues to get students' attention (clap, flick the lights on and off, play a chord progression on the piano)
- Remember experiential learning ("Just do it!") Little kids often do not need more explanation of concepts—verbal explanations should not take the place of the experience of feeling, moving, singing, playing, doing)
- Let students teach, explain, lead when appropriate
- Plan opportunities for listening and other activities, which require quiet time.
- Try to begin class or rehearsal with something other than talking like singing, playing or listening to music. This sets the tone for the day and prevents you from beginning a class by talking over them!
- Utilize all of the different ways to communicate information (e.g., sing directions)
- Share your experience with others (including the kids!) so they are aware of your goals and or limitations. Teach the students about your modifications and the rationale behind them
- Ask your students to use their voices in a healthy way—teach them some basics
- Practice what you preach—you are the vocal model for others (do not raise your voice to speak over them, do not overdose on caffeine in front of them)
- Pay attention to the health of your voice—stay aware of your habits (when does your voice feel rested? when does it feel strained?)

(Morrissey, 2001)

Website Database

As a final assignment for the unit, students are asked to compile a comprehensive list of resources on the internet related to the broader topic of health issues for teachers. Each student is asked to find and research at least three websites and write a description of the content and background of the organization or author of the site. From this list, the class designs a database to categorize and catalogue the sites for future reference. This database was available on line for the duration of the school year so that students could have access to the information at any time from any location, which provided additional reinforcement of the material once the class was completed.

Summary

Vocal health should be of primary concern to those who are preparing to enter the profession of teaching and those who are currently teaching. This curriculum was designed to fit into the teacher education program at Luther College. However, it could be applied to a variety of educational settings including student teacher seminars, teacher in-service days, and professional development workshops.

The elementary general music teacher referred to in the abstract stated that she learned how to care for her voice the hard way, through trial and error (Morrissey, 2002). Exposure to information related to vocal health and hygiene offers pre-service and practicing teachers the opportunity to avoid having to hurt their voices in order to learn how to save them.

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