Accommodating Band Students with Visual Impairments
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Accommodating Band Students with Visual Impairments

ABSTRACT: This article offers a discussion about some of the accommodations and modifications used in music instruction. The focus here is on the musical tasks and challenges faced by band students with visual impairments. Research and literature reveal an interest in the topic but a lack of accessible materials for immediate use in the classroom and rehearsal. The author seeks to broaden the discussion.

KEYWORDS: advocacy, band, blind, high school, low vision, middle school, visually impaired

A major educational goal for the visually-impaired student is attaining a level of independence and self-assurance in all tasks, such as playing a band instrument. As a band teacher at a residential school for the blind, I have learned that success toward this goal occurs through the use of accommodations or modifications appropriate to the learning style of each student. Many types of music instruction involve visual presentations that challenge the visually-impaired band student. Overcoming these challenges requires the band teacher to be responsible for providing the necessary accommodations or modifications.

Each year, schools develop Individual Education Plans (IEPs) for all students with special needs. The IEP contains information about the student’s current educational needs and goals, special support services, and appropriate accommodations or modifications essential for the student’s education. One such IEP goal requires that the visually-impaired band student be provided musical parts and materials in braille. An accommodation for the IEP goal requires that the band teacher use the services of a professional or specially trained braille music transcriber. The band teacher can also purchase braille music-transcribing software that allows the production of braille music on-site.

This article focuses on how the band teacher can address accommodations or modifications concerning methods, materials, and technologies that can assist the visually-impaired band student with musical tasks and challenges. The discussion about musical tasks deals with the skills needed for reading music and playing a band instrument. Discussion of challenges features issues raised by teachers, students, and parents involving sight-reading, working with conductors, and participating in marching band.

With some simple modifications, your band students with visual impairments can share in many of the musical experiences of others in the ensemble.

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Learning/Reading Styles

An important goal for band teachers involves helping all band students become independent learners by teaching them how to read music notation. Accommodating for reading music requires the band teacher to determine the learning/reading style of each student. For visual impairment, learning and reading styles focus on skills of visual, tactual (touch), or auditory abilities.

Visual learning uses print as the chosen reading medium, with accommodations focusing on visual clarity based on aspects of light, distance, or contrast. Distance refers to how close the music document is to the user’s eyes. Often, users must move closer to the document being read; use optical aids, such as magnifiers or scopes; or get access to large-size printed material. Contrast involves the reflection of light off of two adjacent colors or surfaces, with the clearest being black against white. Enlargement of staff notation benefits students with issues involving distance; however, challenges can occur with enlarged documents when students are learning about differences between note stems and bar lines, staff lines and ledger lines, and note heads versus note stems. An accommodation for the visual learner who reads staff notation allows for writing letters under each note value or replacing staff notation with an alternative letter notation system, such as ABC notation or the VI music notation method.2

The tactual (touch) learner uses a system called braille that involves reading raised patterns presented individually or in combinations. For music notation, the braille music code represents all symbols used in music. The performer begins the learning process with a tactual reading of the musical score and commits the information to memory. The final step is to sing the passage or play it on an instrument. Accommodation for this reading method requires creating all documents in the braille format, providing an extension of time on task, dividing large sections into subsections to focus learning, and providing audio files to support rehearsals. Gradually, subsections are merged back together to create a larger musical passage. Comprehension and retention of all passages requires a process of review and repetition.

To facilitate this first accommodation, the band teacher can develop an understanding of the braille music code using...
A Challenge for Sighted Teachers

One way to help sighted teachers learn about the needs of the special learner with vision impairments is through a “blindfold challenge.” This activity allows the blindfolded teacher to do a set of activities commonly done by the student throughout the instructional period. These include walking into and around the classroom, practicing instrument and mouthpiece assembly/care/maintenance and playing technique, reading music materials, and undergoing assessment methods. A trip to and around a performance space can also be enlightening.

The sighted teacher must also determine how to provide appropriate communication of both visual and verbal information, such as specific fingerings, walking to and from a rehearsal or performance, and conducting signals. An occasional repeat of the blindfold challenge can remind the music educator of some of the accommodations and modifications a visually-impaired student needs for success.

Bettye Krolick’s book How to Read Braille Music as a resource. The braille music code is a letter notation method based on solfege, with the braille letter D representing the syllable do. The braille letters E through F represent a sequential pattern of the remaining solfege symbols. The conversion of syllables to music pitch changes do to musical pitch C but continues to be represented by the braille letter D. (This is a fixed-do system.)

Instructional options focus the braille music code on performance and nonperformance. Under the performance format, instruction aligns with the curriculum of the music method book being studied. The nonperformance format offers an independent course of study using a comprehensive curriculum, such as the one created by music educator Richard Taesch. A book of exercises written by braille music specialist Edward Jenkins provides reinforcement for both instructional options.

Braille music curriculum features five levels of instruction. The first level is a primer designed to introduce preband students to the practice of reading simple music symbols and performing them with syllables, numbers, or letters. The second introduces the beginning band student to the basic concepts of pitch (first octave) and rhythm (four basic rhythm patterns/rests) and general format (meters, key signatures, bar lines, and tempo). Level 3 provides performers with fewer than three years’ playing experience a reinforcement of material at the first two skill levels, expands concepts of pitch beyond the first octave and accidentals, teaches some new rhythm (dotted and subdivisions), and introduces format (repeat symbols, ties/slurs) and expression (dynamics). The fourth level, for students with three or more years’ experience, reinforces material learned at previous levels and introduces advanced concepts in rhythm, articulation, dynamics, music markings, and tempos. The fifth and final level continues to reinforce learning at previous levels, addresses advanced levels of performance, and concludes with concepts involving instrument specials, special effects, and multiple staff formats (as are used with keyboard, organ, and vocal, improvisation). All levels of instruction focus on single-staff formats, but the learning can also be applied to multiple-staff formats.

The auditory learner has no reading medium but uses sound sources (human or recorded) for learning. Tasks require the learner to memorize materials through imitation and repetition. Accommodation for this learning style requires the learner to listen to the sound sample first and then repeat back the sound sample by playing it on a band instrument. Additional accommodations involved extending time on task, dividing large passages into subsections, and providing appropriate sound recordings.

Band Instrument Accommodations

Each band instrument requires a unique set of skills to be mastered by the performer to demonstrate success on the instrument. Tasks common to both visually-impaired and sighted band students include assembly/maintenance, tone production, and technique; however, certain situations require accommodations.

Instrument assembly generally involves connecting specially designed parts to their appropriate counterparts, followed by an appropriate alignment of these parts to allow for proper operation of the instrument. The clarinet represents a good example of assembly challenges in which separate assemblies of the body and mouthpiece are required. The body of the clarinet divides into five different parts, but only the middle key sections and mouthpiece require alignment. Accommodations for alignment involved placing Velcro dots on the back of the key barrel to serve as tactual reference points. Mouthpiece assembly requires teaching the student to place the flat side of the reed on the flat side of mouthpiece, align the reed using the index finger as a guide along the edge of the mouthpiece, and secure the reed to the mouthpiece with the ligature.

Tone production involves a visual or auditory demonstration. Often, the band teacher produces an appropriate sound on the instrument. For the visually-impaired band student, a verbal description combined with the visual presentation (for the rest of the class) serves as an accommodation and reinforces the visual presentation. One challenging presentation involves teaching the student the “buzzing” used with brass instruments. The first step would involve teaching the student to relax the embouchure by doing a playful “fluttering” of the lips without using the mouth-
piece. The next step repeats the process but adds the mouthpiece. Finally, once confidence is apparent in these two steps, the actual buzzing process begins.

Technique requires the visually-impaired band student to demonstrate fingering and hand skills required for a particular instrument. The level of difficulty varies between instruments. Some instruments are more challenging than others. An accommodation involves placing Velcro dots on finger keys to indicate specific placement of the fingers or spacing between fingers. In the brass family, playing the trombone requires moving a slide to specific unmarked positions. Accommodation for this requires use of the fingers of the slide hand, which are positioned in relation to the trombone bell. The outer two positions require extending the arm to two positions, one longer and one shorter. In the percussion family, playing a drumhead or mallet keyboard raises an issue of orientation. Accommodating orientation requires that the student receive physical assistance from a second person; this individual would teach orientation by positioning one hand on the instrument head or bar while the other hand strikes. (The helper might also combine both of these as a single accommodation.) Finally, secure a label to the keyboard in a way that avoids damage to the instrument’s color or sound quality. Many of these tasks require additional accommodations, such as extended learning time and repetition of the task to reinforce learning.

**Technology**

Creating accommodations for the visually-impaired band student requires the use of both standard and adaptive technologies. These technologies include both software and hardware, and they often require special funding toward the student’s education. Software programs may encompass braille transcription, music notation, music recording, optical character recognition (OCR) scanning, screen magnification, and screen reading. Hardware may include closed-circuit television, braille embossers, and large-print printers. Dancing Dots and Opus Technologies are two major vendors of adaptive music technologies.

Audio recording programs, such as Sonar, Studio Recorder, and Audacity, are examples of technology that can help provide a primary accommodation for the band student. These programs can produce audio files for assistance in developing reading and playing skills, recording and evaluating individual

On the eve of his fortieth birthday, Gary Marcus, an internationally renowned cognitive scientist with no discernible musical talent, becomes his own guinea pig to look at how human beings become musical—and how anyone of any age can master something new.

“Gary Marcus, the eminent cognitive psychologist, has written a fascinating autobiographical case study. He explores the common spaces inhabited by music and language, the evolution of the musical mind, the varieties of expert music teaching, and the deep pleasures of achieving musical competence.”
—Eugene Narmour, University of Pennsylvania

“Guitar Zero is a refreshing alternation between the nitty-gritty details of learning rock-guitar licks and Mr. Marcus’s survey of the relevant scientific literature on learning and the brain.”
—The Wall Street Journal
performances, or general listening to understand the overall performance of a musical work. These programs create or allow downloading of files in MIDI, WAV, or MP3 formats.

Music notation programs, such as Sibelius or Finale, can be used to create both audio and document files.11 The program saves the audio portion of the file and exports it in an audio format, allowing transfer and saving of the final to compact disc or tape. The document file creates a large-print document by modifying the properties of the document. Compatibility issues exist may arise between screen-reading and notation programs; however, a program called Sibelius Speaking 3 has demonstrated success on a limited basis.12

Accommodations involving large-print music documents can create the challenge of excessive page turning. A new screen technology called the music reader presents a digital image on a large screen and allows pages to be turned using a foot pedal. The technology begins with a computer program creating the music file and continues with saving the music file to a memory/flash drive, and finally uploading the music file into the reader. Dancing Dots and Music Reader are two of the current vendors of this technology.13

Braille music transcription software, such as Goodfeel and Toccata, can be used to help teachers and students create braille music documents as needed.14 Both programs come with an OCR scanning program called SharpEye, which scans, edits, and converts the music document into a notation interchange file format (NIFF) file or extensible markup language (XML) format.15 Although these programs provide for uploading MIDI files, the synchronized accuracy creates conflicts in the transcribing process.

Challenges

Each year, my work as a band director for students who are visually impaired results in inquiries from teachers, students, and families around the United States about sight-reading, working with conductors, and participation in marching band. Here are some of the things I have learned.

Sight-Reading

Professional flutist and psychologist Thomas Wolf defines musical sight-reading as the ability to perform music from a printed score or part for the first time.16 The process involves simultaneous reading and performance skills, and it is often used for evaluation and assessment. In this situation, a challenge develops for the visually-impaired band student, who will require accommodations or modifications similar to those used for standardized tests.

The type of accommodation required for sight-reading depends on the individual student’s needs. All musical passages used must conform to the learning/reading style of the student, be that visual, tactual, or auditory. The visual learner requires enlargement of documents to large-print format. For the nonvisual learner, the use of alternative methods of musical notation requires memorizing music for performance. Accommodations for memorization use a division of the musical passage into subsections for reading and performance and require extra time to allow the student to complete the task. Additional accommodations addressing the auditory learner require the presence of a second person to read or perform the passage in question before any performance by the student.

As an advocate for the student, the band teacher needs to support the participation of the visually-impaired band student in activities that provide the student an opportunity to be challenged and evaluated equally with sighted peers.

Working with Conductors

A primary duty in conducting involves providing appropriate communications using visual cues and signals. For the visually-impaired band student, the visual system of cuing and signaling creates a challenge that requires the conductor to make simple accommodations or modifications. Prior to any rehearsals, the conductor needs to be informed of the special needs of all performers, including the visually-impaired band student, to determine necessary preparations and possible alterations to conducting and rehearsal techniques. A first accommodation is a meeting between the conductor and each student with unique challenges to determine the strengths and needs of each.

Next, a system of verbal cues needs to be created to communicate starts/stops, countdowns, cutoffs, and restarts. The need for verbal cuing will be greatest during the initial rehearsals and decreases as the performer gains a greater awareness of the conductor’s technique and timing. If required during a performance, verbal cues or signals should be used in mini-segments. A third accommodation encourages placing the student in a special seating arrangement, such as the middle of the first row, where all verbal cues can easily be given by the conductor and received by the performer.

The performer’s knowledge of the music literature and level of musicianship determine the level of assistance required by the conductor. My conducting experiences working with visually-impaired band students involve the combination of students from various schools for the blind in a unified festival ensemble as well as in school concerts. The results suggest that rehearsal periods focus on general starting and stopping of sections in the music as well as sections representing unison rhythm patterns. The motivation of these students to perform well usually produces excellent results.17

For purposes of advocacy, the band teacher and conductor need to encourage participation in special activities, such as festivals and multischool concerts, since these events provide the student with an opportunity for equal participation with sighted peers along with expanded knowledge of conducting and interpretation of musical literature.
Participation in Marching Band

Marching band represents a major activity for all band students, but it also creates some musical and nonmusical challenges for those with visual impairment. Many of the musical challenges encountered have already been discussed here; however, the nonmusical challenges touch on skills involving awareness of surroundings and travel, known to the visually-impaired community as orientation and mobility. The primary goal of orientation and mobility instruction is to make the student an independent, self-sufficient traveler, which at first glance might seem to conflict with the marching band goal of unifying all performers into a single ensemble. Resolving issues and providing appropriate accommodations requires collaboration between the band teacher and the student’s orientation and mobility specialist to determine the best options for all involved.

For the visually-impaired band student, marching band participation offers passive and active options. Passive participation involves the student as a nonmarcher who performs with a band instrument on the sidelines with the drum pit group. Active participation places the student on the field, marching with sighted peers. For help in molding the student into an active participant, I recommend an article written by Iowa Braille and Sight Saving School band director John Best called “Marching Band for the Visually Handicapped.” In this article, Best discusses the step-by-step process for developing the visually-impaired marcher. The article begins with an introduction to basic marching skills and progresses to squad-level participation.

Standard accommodations for this activity include sight-guided assistance, dividing instruction into smaller segments, and extending learning time. The most effective accommodation involves sighted-guide assistance. The traditional sighted guide serves as the eyes of the student and provides travel assistance. For marching band, the guide positions himself or herself alongside the student and slightly behind, providing directional assistance with shoulder holds. Changing to the opposite shoulder requires the guide to use the opposite hand, move that hand across the back of the student, and reposition the hand on the student’s opposite shoulder.

For many years, school marching bands have allowed the participation of students with various levels of visual impairment. In recent years, news media have increasingly featured
visually-impaired musicians. A significant story involved The Ohio State School for the Blind Marching Band, whose members marched in the 2010 Rose Parade in Pasadena, California. Band teachers face many challenges, but seeing a band student with a visual impairment succeed in a challenging activity, such as a marching band performance, provides reinforcement and confirms many of the reasons these educators entered the music teaching profession in the first place. I highly encourage band teachers to demonstrate advocacy for all their students by actively involving them in marching band.

Musical tasks that sighted band students perform can be performed equally well by visually-impaired band students with the assistance of accommodations and modifications. The band teacher plays a key role in advocating for the visually-impaired student by supporting this individual and providing the appropriate modifications and accommodations so the student can succeed. When successful, the visually-impaired band student demonstrates a high level of independent learning, which leads to a level of completion toward the major educational goal of independence and self-assurance.

**Notes**

11. Sibelius (www.sibelius.com); and Finale (www.finalemusic.com).
15. SharpEye (www.visiv.co.uk).